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JB Series Herbal / Spices Grinding Machine



Working Principle

JB series herbal / spices grinding machine is composed of a hammer host, an ultramicro host, a cyclone separator, and a dust box. The grinding machine has a variety of properties such as no screen, no mesh, uniform discharge particle size, etc. The production process is continuous and can directly load large particles Crushed into fine powder. This machine is applied in such trades as pharmaceutical, chemical, foodstuff, etc.

The grinding machine can crush Chili, pepper, black pepper, white pepper, green pepper, cinnamon, cumin, bandits, Dahongpao pepper, cinnamon, nutmeg, cardamom, red yeast rice, red pepper, garlic, star anise, cloves, Amomum Tsaoko, geraniol, turmeric, ginger, fennel, anise, angelica and other material with high content of oil or tiber. Besides, the material can be fed into the machine directly without coarse crushing. The grinding machine has the features of big capacity, not changing the color, maintaining the physicochemical characteristics of the material.



JB series herbal / spices grinding machine crushes materials into extremely fine powders through various physical processes such as impact, collision, friction, shearing, and grinding. Its core feature lies in the integration of both crushing and grading functions, typically operating in a closed system under negative pressure:

- **Coarse Crushing Process:** Material is quantitatively fed into the hammer mill chamber. Inside the chamber, materials are crushed by the violent impact, shear, collision, and friction caused by high-speed rotating hammers against the inner wall.
- **Collection:** The airflow containing fine powder enters the cyclone separator, where most of the finished powder is collected.
- **Ultrafine Crushing Process:** Material is quantitatively fed into the crushing chamber through a feeding system (e.g., a screw feeder). Inside the chamber, materials are crushed by the violent impact, shear, collision, and friction caused by high-speed rotating components against the gear ring of the equipment.
- **Grading Process:** The crushed material is carried upward by the negative pressure airflow generated by the induced draft fan into the grading zone. Graders (usually high-speed rotating impellers) generate strong centrifugal forces. Coarse particles are thrown back into the crushing chamber for further grinding due to centrifugal force exceeding airflow attraction, while fine powder that meets the fineness requirements passes through the classifier with the airflow.
- **Collection and dust removal:** The airflow containing fine powder enters the cyclone separator, where most of the finished powder is collected. Finer dust proceeds to the pulse bag filter (or filter cartridge) and is captured, while clean air is discharged by the induced draft fan. The pulse-jet cleaning system periodically cleans the filter bags to maintain filtration efficiency.

The entire process is continuous, and the fineness of the output material can be precisely controlled by adjusting the speed of the grading wheel—higher speeds result in finer powder.



Contrast Dimension

Contrast dimension	Integrated Hammer Mill + Ultrafine Pulverizer	Two-stage Process of "Hammer Mill + Ultrafine Pulverizer"
Process flow	Integrated, all-in-one	Segmented, multi-unit series
Footprint	Compact and space-saving	Large, requires multiple conveyor lines
Energy consumption	Low, internal energy recycling, comprehensive energy saving	High. Each device has independent energy consumption and transmission loss.
Dust control	Fully enclosed and operates under negative pressure, resulting in minimal dust pollution.	Connection points are prone to leakage, and dust control is difficult.
Product stability	High, with adjustable particle size and uniform distribution	Stability fluctuates due to multiple device statuses
Investment and maintenance	High upfront cost, but low overall maintenance cost	The total cost of equipment procurement may be spread out, but maintenance points are numerous, resulting in high overall costs.



Scope of Application

Pharmaceutical industry: Ultrafine grinding of traditional Chinese and Western medicine raw materials to improve bioavailability.

Food industry: Ultrafine grinding of grains, food additives, spices, health product raw materials, etc., to improve taste and absorption.

Chemical industry: Fine processing of pigments, dyes, resins, fillers, cosmetic raw materials, etc.

Other industries: Also used in pesticides, biological products, ceramics, feed, etc.



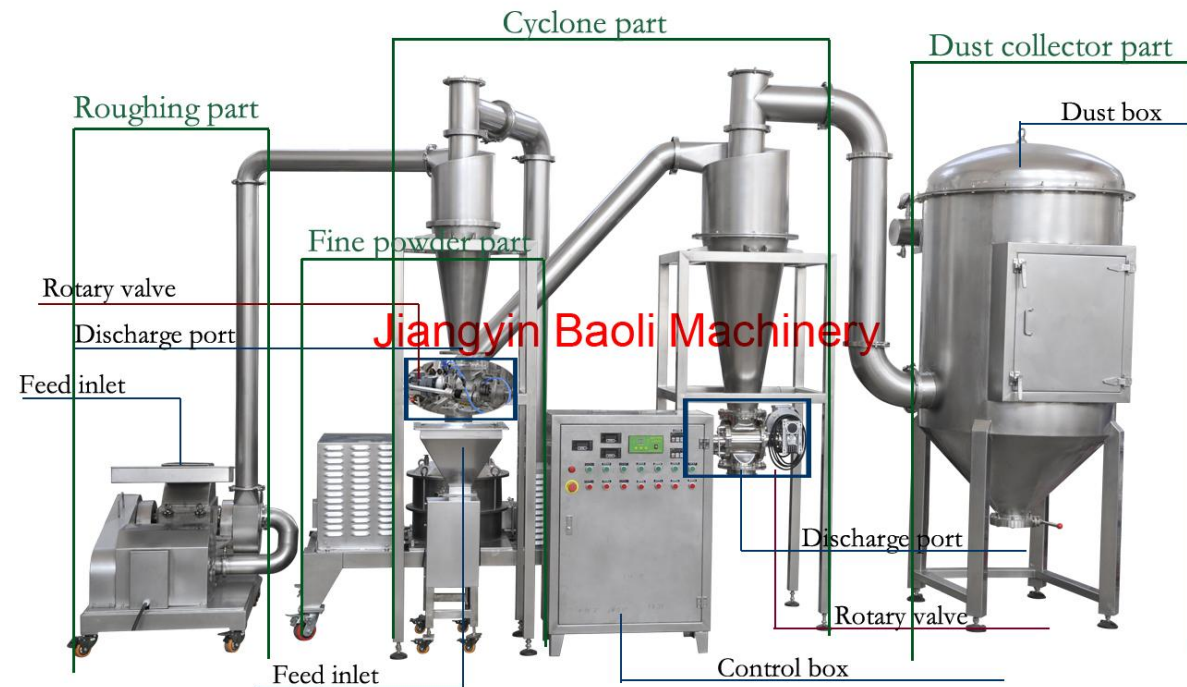
Core features

1. Efficient and high-yield: Specially optimized for difficult materials such as coarse fibers, the production capacity is forcibly increased by increasing the number of hammer heads and the effective area of the gear ring.

2. Fineness adjustable: By adjusting the speed of the grading wheel through frequency conversion, the fineness of the finished product can be flexibly controlled within a wide range of 60 mesh to 500 mesh .

3. Low temperature crushing: High power induced draft creates negative pressure airflow, which can take away the heat of crushing and is suitable for processing heat sensitive materials (such as traditional Chinese medicine and spices). The crushing temperature can be controlled below 55 °C.

4. Wear resistance and intelligence: The core components are made of wear-resistant alloys. Equipped with PLC control system, it can monitor in real time and has fault self diagnosis function.



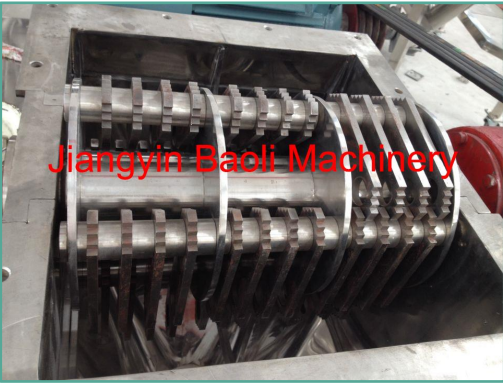
Technical Data

Model	Main Structural Dimensions(mm)							Capacity	Input Particle Size	Output Particle Size	Speed	Machine weight	Total power
	L1	L2	H1	H2	H3	H4	W1	Kg/H	mm	mesh	rpm	Kg	KW
JB-350+20	5487	6810	859	2743	2862	650	1574	15-200	50	60-320	8600	1800	28.5
JB-450+30	6370	7991	1056	3472	3352	650	1783	50-600	50	60-320	6700	3600	61
JB-550+60	7288	9010	1096	3472	3652	800	2025	100-1000	50	60-320	5250	5300	106
JB-550+80	8410	10372	1096	3472	4015	800	2199	120-1500	50	60-320	4850	7500	145

Our company can be customized according to the user's special requirements.



More Pictures



FAQ

1. Are you a factory or a trading company?

Jiangyin Baoli Machinery Manufacturing Co., Ltd. is a manufacturing-oriented enterprise. Mainly application in a full range of powder field, from the unit to the system, from the crushing, conveying, mixing, sieving to granulation.

2. What machine your company have? Can customized machine upon my needs?

We Produce **CRUSHER, GRINDER, MIXER, SIFTER, CONVEYOR, DRYER, GRANULATOR** etc.

Yes, we absolutely can customized machine upon your side, just freely tell me your needs or design request, i will check and give you quote.

3. Can I visit your factory?

Yes, our factory is located in Jiangyin City, Jiangsu Province, China, very near Shanghai City and it only takes 30 minutes to get to our city by train from Shanghai. Please contact our sales specialists if you would like a tour.

4. What information do I need to get a quote for a powder grinding machine?

- ① What is the size of the material? For example, chilli, spices, turmeric, rice grain, or others.
- ② What capacity do you expect from a grinder machine? (kg/h)
- ③ What mesh or mm, or micron(size) of the powder you want?
- ④ What is the material of the machine?

Usually, we use stainless steel 304; if you want stainless steel 316, it's OK, and please tell us.

5. Is it convenient to clean the equipment?

Yes, cleaning convenience is one of our core design considerations.

1. Quick opening structure: using quick opening clamps, etc., it can be quickly opened without tools.
2. No dead corners design: The inner wall of the container is smooth and fluid, avoiding material residue.
3. Cleaning methods: Supports various methods such as dry cleaning and wet washing.

6. Will there be heat during the crushing process? How to control the temperature?

Mechanical crushing does indeed generate heat. For heat sensitive materials, we offer multiple cooling solutions:

1. Built in cooling jacket: cools the grinding chamber through circulating cooling water.
2. Airflow cooling: Use a cold air fan to cool the cavity.



About Baoli Machinery

Our company locates at Wuxi city, very near Shanghai City and it takes 35-50 minutes to get to our city by train from Shanghai.

1, We have CE certificate, ISO, BV...etc.

2, Each year, We takes part in a lot of Expos ,for example: FIC, CPHI, API...etc

3, Our team possesses profound experience in the powder industry sector. We can provide relevant production lines for loading, crushing, mixing, sieving, conveying and so on.

