

GFM-5L Dry Bead Mill

Integrated Grinding and Classification



More uniform grinding force stable fine grinding effect

The horizontal layout enables the grinding media to fully contact the material under the dual action of gravity and the stirring shaft.



Real-time finess control, with an extremely narrow particle size distribution

The classifier wheel operates synchronously with the grinding process. Based on centrifugal force, oversized particles are separated in real time and flung back into the grinding chamber for secondary grinding, while qualified particles pass through the classification gap into the collection system.



Enhanced by fluidized bed technology achieving higher classification efficiency

Innovatively employing TSD classification technology, this system leverages fluidized bed air distribution to minimize pressure drop during the classification process, preventing material accumulation and blockage within the classification chamber.

Low-cost · Submicron · Zero-waste

01

Combining Affordability with Precision

Breaking through the high-energy consumption limitations of traditional air-jet mills, achieving low-cost mass production of submicron-level grinding.

02

Zero-loss Design

Highly wear-resistant components + residue-free design.

03

Intelligent Control

Fully automatic adjustment of rotational speed, airflow, and classifier parameters.

Wear-resistant · Temperature-stable · Controllable



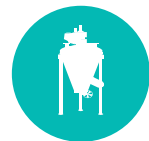
Ceramic Pin-type Structure

Enhance the wear resistance of the rotor.



Silicon Carbide Cylinder

The outer layer circulates cooling water to control grinding temperature, ensuring the grinding temperature range.



Power Classifier

The particle size range of the material can be controlled.

Working Principle of GFM-5L Dry Bead Mill



Principles of Mechanical Grinding

The ceramic rotor spins at high speed to drive the zirconia beads into motion. Through intense collisions between the zirconia beads and the material, large particles are broken down. Subsequently, the friction between the zirconia beads and the material, as well as between the material and the chamber, further refines the material to the target particle size.



Principles of Precise Grading

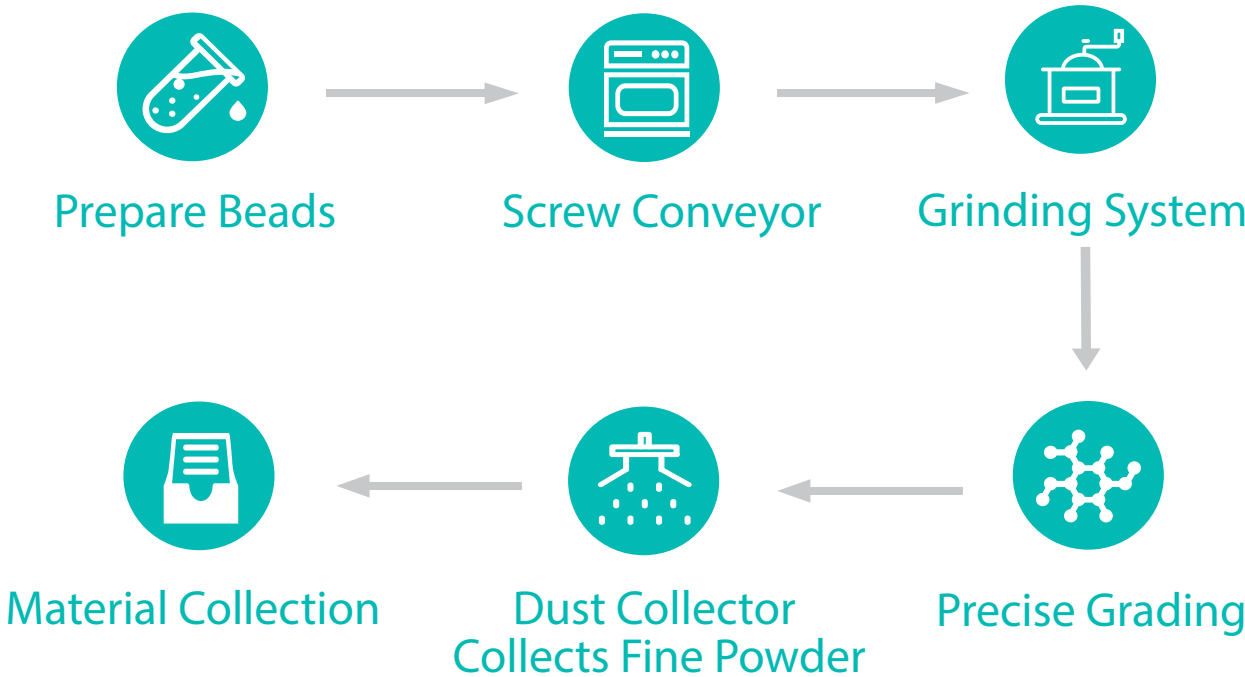
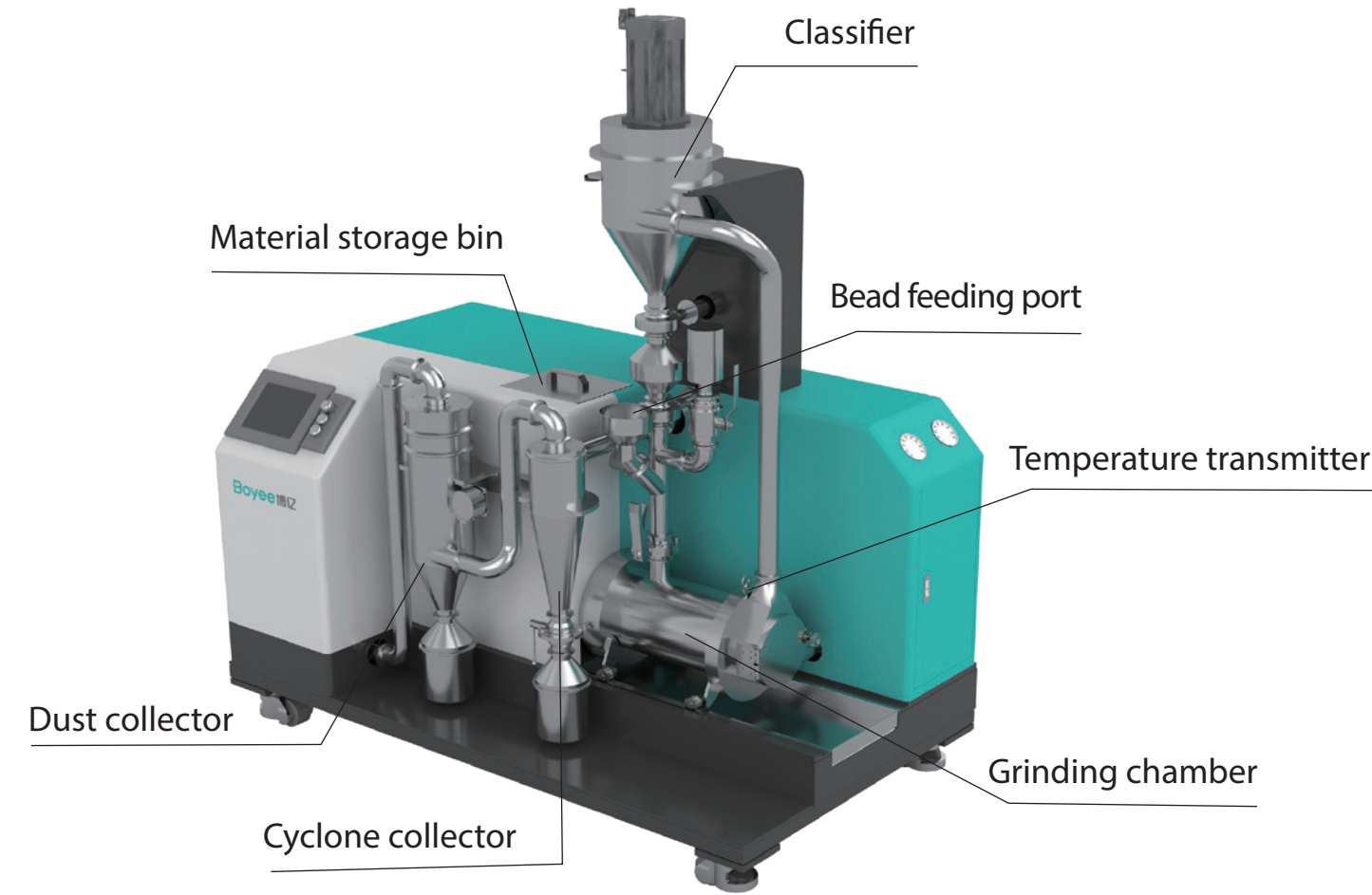
The classifier utilizes specific airflow and mechanical structures to screen materials based on particle size and density differences, ensuring qualified particles enter the collection stage and achieving precise particle size control.



Principle of Efficient Collection

The combination of a cyclone collector and dust collector is employed, where the cyclone collector recovers bulk material through centrifugal force, while the dust collector captures fine powder via filtration, achieving waste-free material recovery .

Overall Structure
GFM-5L Dry Bead Mill Structure



Technical Specifications

Project	Unit	Structural Description
Production capacity	kg/h	0- 100
Effective volume	L	5
Main motor power	kw	5.5
Spindle speed	r/min	0- 720
Stirrer shaft linear speed	m/s	0- 6
Grinding media diameter	mm	2- 8
Media filling capacity	Kg	6.6 - 9.9
Feed particle size	mm	≤ 1
Discharge particle size	μ m	1- 5
Air flow	m3/h	240
Feed inlet size	Foot	2
Outlet size	Foot	2
Cooling water flow	m3/h	3- 6

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