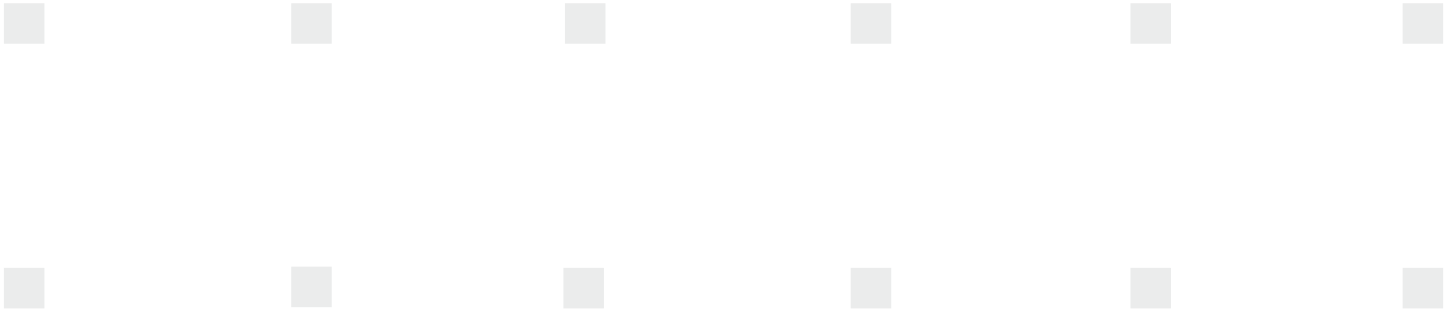


PALLMANN

Quality Powders for Rotomoulding



Quality Powders for Rotomoulding

Top product quality due to free-flowing plastic powders of high bulk density

The difference between fine grinding and grinding fine

Profitable pulverizing of thermoplastic material at ambient temperature is a job for experts. Not all powders are the same. Different applications require special powder qualities with determined particle size distributions. The quality of the powders for rotomoulding is specified in the German standard DIN 53492 and in the US standard ASTM D 1895.



Granules



Freeflowing powder

1. Flowability

Good flowability is a prerequisite to achieve an optimum distribution of the material within the mould. This is the only way that uniform wall thickness of the produced item is achieved. The flowability is good if the powder flows through standard test device within 22 – 28 seconds.

2. Bulk density

Bulk density and flowability depend on each other. The bulk density of a quality powder with spherical particle shape is > 350 g/l.

3. Proportion of fines

Quality powders characterize themselves through narrow particle size distribution. To guarantee that the material distribution is uniform even in complicated moulds, 80-90% of the powder should have a particle size between 0.15 – 0.5 mm.



Flowability

Analysis



Particle size distribution



More than 1000 "ORIGINAL PALLMANN" plastic pulverizing systems all over the world guarantee their owners the adherence to these quality parameters.

PALLMANN PolyGrinder[®], type PKM

Method of operation

New, lenticular or cylindrical granulate as well as cut re-granulate from rejects can be used as feed material.

The material is continuously fed via a storage bin by means of a dosing unit into the PolyGrinder[®]. Size reduction is performed between a stationary and a rotating grinding disc. Both discs are equipped with hardened and precision ground key segments with a special profile. Due to the extensive selection of various key segments, the PolyGrinder[®] allows the processing of many different plastics. The pulverized material is pneumatically conveyed out of the mill.

Design

The PALLMANN PolyGrinder[®] is robust and suitable for continuous operation.

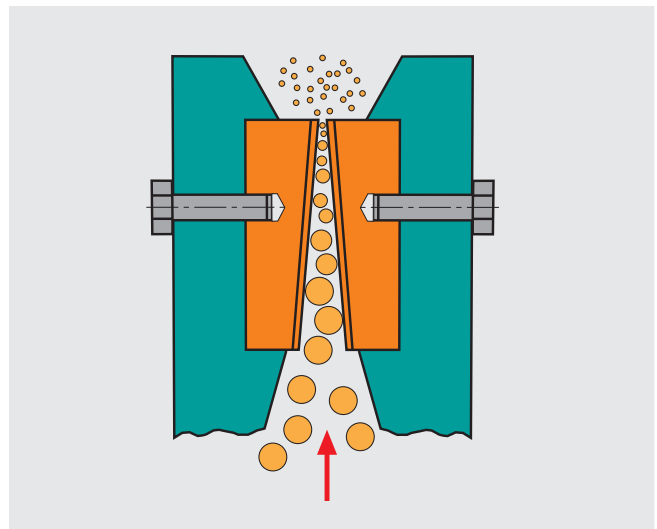
Vertical material discharge prevents clogging of the material in the housing. A bearing with virtually zero play allows the precise setting of the grinding gap by means of a central gap setting device. Easy access to the mill and the key segment exchange without disassembly of the rotor guarantee a minimum of downtime.

Characteristics

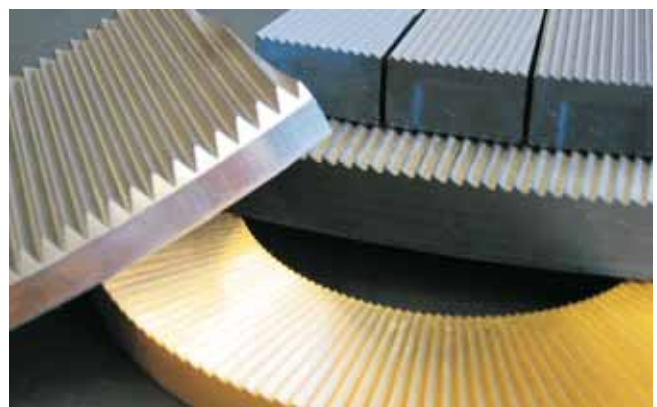
- Grinding path made of wear-resistant, technically optimized key segments
- Precise central grinding gap adjustment
- Housing developed for optimum air cooling and easy access for cleaning and key segment exchange
- Broad field of application due to easily exchangeable grinding elements



Grinding chamber of the PolyGrinder[®]



Grinding principle



Grinding elements conform to materials

Proven grinding systems for fully automatic operation



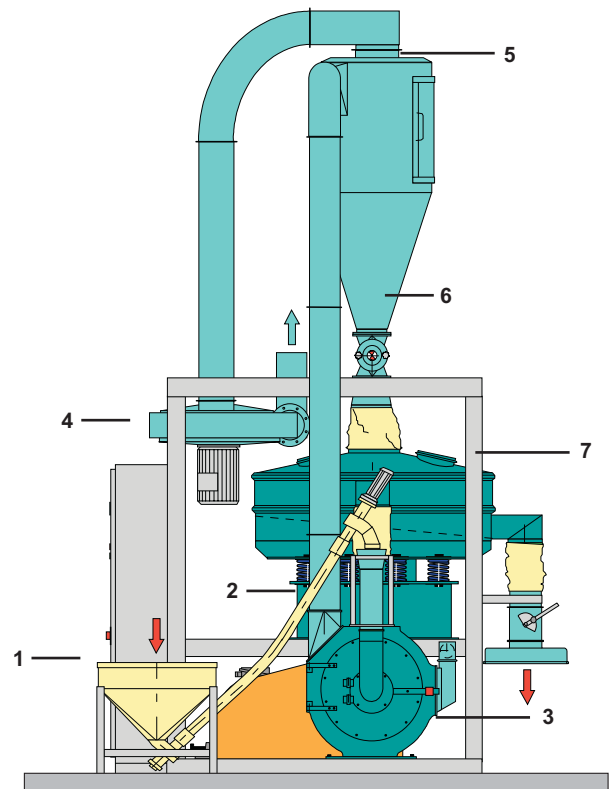
Method of operation of a PolyGrinder® system

Via a storage bin (1), by means of a dosing unit (2), the material to be ground is fed into the mill (3). The pulverized material is conveyed out of the mill by means of a fan (4) and is transported via a cyclone separator (5) with downstream rotary airlock (6) onto a special screening unit (7).

Coarse material from the screen is reintroduced into the mill for further size reduction. Finished powder can be sacked or pneumatically transported into a powder silo.

Characteristics

- Fully automatic, temperature- and load controlled system control
- High throughput capacity at uniform high product quality
- Quick installation, space-saving design



Convincing powder qualities with PALLMANN Pulverizing Systems

- Quality powders with excellent flowability, high bulk density and uniform particle size distribution
- Optimum material distribution even in complicated moulds
- Material- and weight savings due to uniform wall thickness during the production of rotational moulded parts
- Short mould filling times with a low dust level
- Homogeneous material mixing of colored powders
- Even cycle times guaranteeing constant quality of the moulded part
- Internal control of powder quality and quantity
- Smooth product surface due to optimum particle size distribution

Technical data:

Type		PKM 300	PKM 450	PKM 600	PKM 800
Grinding chamber diameter	mm	300	450	600	800
Motor, main drive	kW	37	55	75-90	110-162
Throughput capacity*	kg/h	150-200	250-350	450-650	750-1200
Total system capacity	kW	42	66	92-102	127-180

*During pulverization of PE in rotational moulding quality, depending on material type

Dimensions	Width	mm	2270	2800	3100	4000
	Depth	mm	2600	2530	2800	4100
	Height	mm	5150	5350	5100	6900





The PALLMANN Group of Companies

The Pallmann Group of companies is the leading manufacturer for size reduction machines and systems for the plastic and recycling industry.

Pallmann Maschinenfabrik develops and manufactures machines and complete systems according to customer requirements or as standard solutions for the preparation of almost any plastic as well as recycling products. In its headquarters in Zweibrücken, Pallmann operates one of the world's largest research and technology centers as well as a training- and service center. More than 130 different test machines are available for the preparation of a wide variety of materials. A downstream laboratory analysis of the test material as well as the preparation on a production scale is possible. In addition to the manufacturing facilities in Europe, North- and South America, the Pallmann group of companies operates a worldwide spare parts- and service network.



Engineering and Service:

Design and manufacturing
Research and development
Production scale testing
Laboratory analysis
Worldwide service
Spare parts
Controlling
Process Control
Installation & Start-up
Overhaul & Repair

System solutions for:

Pulverizing
Granulating
Agglomerating
Recycling

Products:

Agglomerators
Pulverizing Systems
Disc Mills
Turbo Mills
Pin Mills
Laboratory Mills
Universal Mills
Complete Grinding Systems
Knife Mills
Profile Shredders
Rubber Granulators
Pipe Crusher
Air-Swept Mills
Impact Mills
Industrial Granulators
Cryogenic Grinding Systems

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