Cutting Mill SM 300

General Information

Cutting mills are suitable for the grinding of soft, medium-hard, tough, elastic, fibrous, and heterogeneous mixes of products. The new Cutting Mill SM 300 excels especially in the tough jobs where other cutting mills fail.

The high torque of the new 3 kW drive with RES technology (additional flywheel mass) allows for an exceptionally effective preliminary size reduction of heterogeneous mixtures, such as waste or electronic components. Analytical fineness is often achieved in one working run.

The cutting mill is used successfully for a great variety of materials. The sample is only moderately warmed up during the grinding process so that the mill is perfectly suitable for grinding temperature-sensitive materials. Another innovation is the wide, freely selectable speed range from 100 to 3,000 min^{-1}.

When operated with the optional cyclone-suction-combination, the SM 300 is also suitable for grinding light sample materials or smaller quantities. In combination with the wide choice of bottom sieves, hoppers and collecting vessels, the mill can be easily adapted to varying application requirements.

Application Examples

aluminium slag, animal feed, bones, cables, cardboard, electronic components, feed pellets, foils, food, leather, lignite, material mixtures, non-ferrous metals, paper, PET preforms, pharmaceutical products, plant materials, plastic toys, plastics, polymers, refuse derived fuels, resins, rubber, spices, straw, textiles, waste, wood, ...

Product Advantages

- powerful size reduction thanks to 3 kW drive with high torque and RES technology
- perfect adaptation to application requirements by variable speed from 100 to 3,000 min^{-1}
- optimum cutting effects thanks to double acting cutting bars
- quick and easy cleaning due to fold-back hopper, smooth surfaces and push-fit rotor
- defined final fineness due to bottom sieves with aperture sizes from 0.25 - 20 mm
- wide range of accessories including various hoppers, collection systems, rotors and sieves
- highest safety standards due to engine brake, central locking device, electronic safety check and base frame
- 18 cutting events per rotation with parallel section rotor

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Features

Applications	size reduction by cutting
Field of application	agriculture, biology, chemistry / plastics, engineering / electronics, environment / recycling, food, medicine / pharmaceuticals
Feed material	soft, medium-hard, tough, elastic, fibrous
Size reduction principle	shearing, cutting
Material feed size*	< 60 x 80 mm
Final fineness*	0.25 - 20 mm
Speed at 50 Hz (60 Hz)	100 - 3000 min^{-1}
Rotor peripheral speed	4.7 - 20.3 m/s
Rotor diameter	129.5 mm
Types of rotors	parallel section rotor / 6-disc rotor / V-rotor
Types of hoppers	universal, long stock
Material of grinding tools	stainless steel, steel for heavy-metal free grinding, tungsten carbide
Sieve sizes	trapezoid holes 0.25 / 0.50 / 0.75 / 1.00 / 1.50 mm square holes 2.00 / 4.00 / 6.00 / 8.00 / 10.00 / 20.00 mm
Collector systems / capacities	collecting receptacle 5 l / optional: 30 l collecting unit 0.25 / 0.5 l cyclone-suction combination (0.25 l - 30 l)
Drive	3-phase asynchronous motor with frequency converter
Drive power	3 kW with flywheel mass ~ 28.5 kg
Electrical supply data	different voltages
Power connection	1-phase
Engine brake	yes
Protection code	IP 20
W x H x D closed	576 (1080 opened) x 1677 x 750 mm (with base frame and universal hopper)
Net weight	~ 160 kg
Standards	CE

Please note:

*depending on feed material and instrument configuration/settings

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Videolink

http://www.retsch.com/sm300

Function Principle

Size reduction in the Cutting Mill SM 300 takes place by cutting and shearing forces. The sample comes into contact with the rotor, and is comminuted between the blades and the stationary double acting cutting bars inserted in the housing. In the 6-disc rotor, spirally arranged reversible hard metal plates operate by cutting in sequence. The knives of the parallel section rotor carry out comminution with a powerful cutting action. An additional flywheel mass (RES technology) on the drive shaft produces the exceptional performance of the SM 300. Thanks to the variable speed from 100 to 3,000 min^{-1}, the SM 300 can be easily adapted to different application requirements