



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 700 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 700 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
- maximum peripheral rotor speed 20.3 m/s
- defined final fineness due to bottom sieves with aperture sizes from 0.25 - 20 mm
- feed size
- 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)	700 - 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 - 5 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

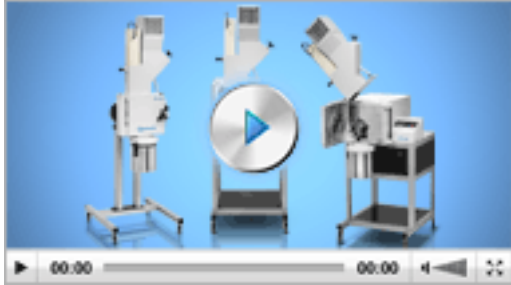
Please note:

*depending on feed material and instrument configuration/settings



Cutting Mill SM 300

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 700 to 3,000 min⁻¹, the SM 300 can be easily adapted to different application requirements

Order data

Cutting Mill SM 300

with collecting receptacle, 5 litres and base frame with wheels (please order rotor, hopper and bottom sieve separately)

20.729.0002	SM 300, 220-230 V, 50/60 Hz, with frequency converter for variable speed
20.729.0008	SM 300, 220-230 V, 50/60 Hz, with frequency converter for variable speed, , housing of stainless steel
20.729.0005	SM 300, 220-230 V, 50/60 Hz, with frequency converter for variable speed, , for grinding without heavy-metal contamination

other electrical versions available for the same price

Accessories SM 100 / SM 200 / SM 300

Rotors

22.608.0022	6-disc rotor, stainless steel, with reversible cutting tips of tungsten carbide
22.608.0028	6-disc rotor, steel 1.0580, with reversible cutting tips



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	of tungsten carbide, , for grinding without heavy-metal contamination
22.608.0021	Parallel section rotor, stainless steel
22.608.0018	Parallel section rotor, steel 1.0580, for grinding without heavy-metal contamination
22.608.0034	V-rotor, stainless steel, for SM 300
Hoppers	
22.785.0001	Universal hopper with plastic plunger, for SM 200 / SM 300
22.408.0003	Long stock hopper with wooden plunger, for SM 200 / SM 300
Additional plungers for universal hopper	
22.725.0010	Plastic plunger
22.725.0011	Wooden plunger
22.725.0012	Aluminum plunger
Bottom sieves of stainless steel	
03.647.0312	Trapezoid holes, 0.25 mm
03.647.0313	Trapezoid holes, 0.50 mm
03.647.0314	Trapezoid holes, 0.75 mm
03.647.0315	Trapezoid holes, 1.00 mm
03.647.0316	Trapezoid holes, 1.50 mm
03.647.0318	Square holes, 2.00 mm
03.647.0320	Square holes, 4.00 mm
03.647.0321	Square holes, 6.00 mm
03.647.0322	Square holes, 8.00 mm
03.647.0024	Square holes, 10.00 mm
03.647.0062	Square holes, 20.00 mm
Bottom sieves of steel 1.0353 for grinding without heavy-metal contamination	
03.647.0326	Trapezoid holes, 0.50 mm
03.647.0327	Trapezoid holes, 0.75 mm
03.647.0328	Trapezoid holes, 1.00 mm
03.647.0333	Square holes, 4.00 mm
03.647.0335	Square holes, 8.00 mm
03.647.0359	Square holes, 10.00 mm
Cyclone-suction-combination for SM 200 / SM 300	
22.020.0004	Cyclone unit incl. 1 sample bottle 500 ml (to be used with industrial vacuum cleaner)
22.748.0005	Industrial vacuum cleaner for mills, 230 V, 50/60 Hz (other electrical versions and spare filter bags available upon request)
22.523.0002	Sample bottles, 500 ml, 10 pieces
22.001.0001	Holder for sample bottles 1 / 2 / 5 litre
05.239.0011	Sample bottle, 1 litre, 1 piece, to be used with holder 22.001.0001



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05.239.0010	Sample bottle, 2 litre, 1 piece, to be used with holder 22.001.0001
05.239.0009	Sample bottle, 5 litre, 1 piece, to be used with holder 22.001.0001
22.003.0014	Collecting receptacle, 5 litre, stainless steel, incl. adapter lid
Collecting receptacles	
22.003.0008	Collecting unit 250 / 500 ml, incl. 2 sample bottles
22.523.0001	Sample bottles, 250 ml, 10 pieces
22.003.0007	Collecting receptacle, 5 litres, stainless steel
22.003.0010	Collecting receptacle, 30 litres, plastic, incl. adapter and filter hose
22.187.0006	Ring-type filter for collecting receptacle, 5 litres
22.748.0001	Dust filter clamping rings for ring-type filter, incl. 5 dust filters
22.524.0002	Dust filters for ring-type filter, 25 pieces
22.187.0007	Filter hose for collecting receptacle, 5 litres, incl. holder
Accessories for Rotors	
22.908.0001	Reversible cutting tips, tungsten carbide, for 6-disc rotor, 10 pieces
22.151.0004	Cutting plates, stainless steel, for parallel section rotor, 1 set (3 pieces)
22.151.0006	Cutting plates, steel 1.1740, for parallel section rotor, 1 set (3 pieces) , for grinding without heavy-metal contamination
Stationary cutting bars	
22.152.0003	Double acting cutting bars, stainless steel,, 1 set (3 pieces), for SM 200 / SM 300
22.152.0005	Double acting cutting bars, steel 1.1740,, 1 set (3 pieces), for SM 200 / SM 300
Additional items	
22.225.0002	Replacement extraction tool for rotor
99.200.0014	IQ/OQ Documentation for SM 300