



CUTTING MILL SM 200

The universal standard model

Cutting mills are suitable for the grinding of soft, medium-hard, tough, elastic, fibrous, and heterogeneous mixes of products. Within the group of RETSCH cutting mills, the SM 200 is the universal standard model which covers a vast range of applications.

It is equipped with a strong 2.2 kW motor and operates at a rotor speed of 1.500 rpm. In combination with the optional cyclone-suction-combination, the SM 200 is also suitable for, grinding light or heat sensitive sample materials. A heavy-metal-free version is available to avoid cross-contamination.



[Click to view video](#)

FOR UNIVERSAL APPLICATIONS

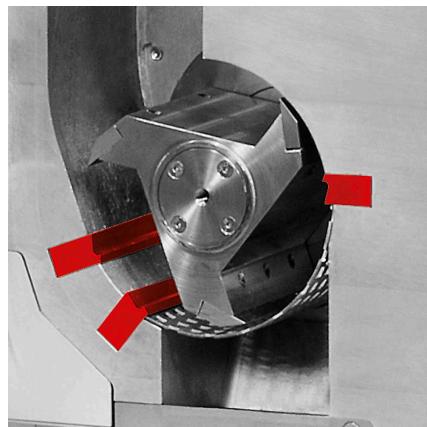
- | Feed size <60 x 80 mm
- | Defined final fineness due to bottom sieves with aperture sizes from 0.25 - 20 mm
- | Optimum cutting effects thanks to double acting cutting bars
- | Quick and easy cleaning due to smooth surfaces, fold back hopper, push-fit rotor and sieves
- | Operation with gravity outlet or optionally available cyclone unit possible
- | 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 safety base frame



CUTTING MILL SM 200
SUPERIORITY IN DETAIL



DOUBLE ACTING CUTTING BARS



Ideal for light & heat-sensitive materials

Instead of the gravity outlet, an optionally available cyclone separator can be connected to the SM 200. The use of the cyclone-suction-combination is advantageous, for example, for light and heat-sensitive samples.

- | Increased throughput
- | Improved sample discharge from the grinding chamber
- | Efficient cooling of sample and cutting tools
- | Collecting vessels with 0.25 - 0.5 - 1 - 2 - 5 and 30 liters are available for the cyclone unit

The SM 200 is equipped with double acting cutting bars which substantially increase the number and effectiveness of the cutting events. The parallel section rotor, for example, generates 18 cutting events per rotation.

CUTTING MILL SM 200

EASY OPERATION & CLEANING

Operation of the SM 200 is exceptionally simple and safe. A safety switch prevents the mill from being switched on with the door open. An electronic safety check ensures that the door cannot be opened when the motor is running – the motor brake makes the rotor come to an immediate standstill after the mill has been switched off.

The hopper can be folded back to get full access to the grinding chamber which, in combination with the smooth surfaces, greatly facilitates cleaning the mill. The push-fit rotor can be removed without tools.



CUTTING MILL SM 200

ACCESSORIES FOR SAFE AND EFFECTIVE GRINDING PROCESSES

The SM 200 can be equipped with different rotors, hoppers and bottom sieves. The mill and accessories, including cutting bars and cutting plates, are also available in versions for heavy-metal-free size reduction.



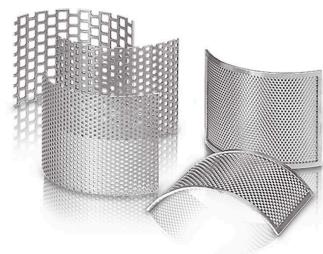
ROTOR TYPES

A parallel section rotor and a 6-disc rotor are available in stainless and heavy-metal-free steel for optimum adaptation to sample properties.



HOPPER TYPES

The SM 200 can be equipped either with the universal hopper, which is suitable for most samples, or the long-stock hopper which is specially designed for long samples.



BOTTOM SIEVES

The bottom sieves with trapezoid or square holes are made of stainless steel or heavy-metal-free steel.

CUTTING MILL SM 200

TYPICAL SAMPLE MATERIALS

RETSCH cutting mills are suitable for a vast range of applications. Typical materials include PET preforms, aluminium slag, animal feed, bones, cables, cardboard, electronic components, feed pellets, foils, food, leather, lignite, material mixtures, non-ferrous metals, paper, pharmaceutical products, plant materials, plastic toys, plastics, polymers, refuse derived fuels, resins, rubber, spices, straw, textiles, waste, wood, etc.



fish



wood



nuts



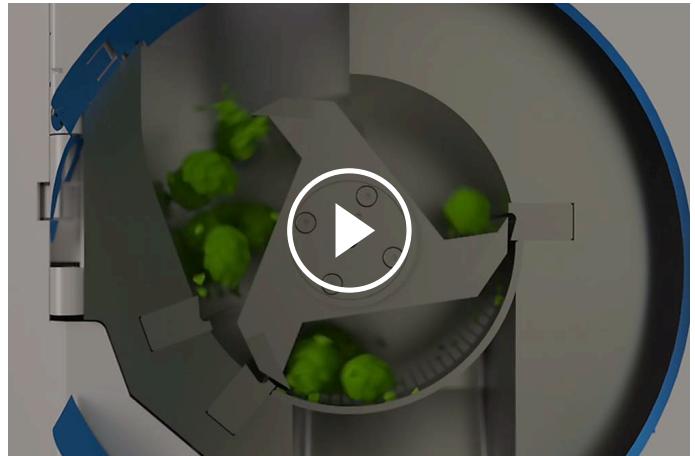
secondary fuels,
biofuels

To find the best solution for your sample preparation task, visit our application database.

CUTTING MILL SM 200

FUNCTIONAL PRINCIPLE

Size reduction in the Cutting Mill SM 200 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. The dwelling time of the sample in the chamber is short; as soon as it is small enough to pass through the openings of the bottom sieve it is discharged through the gravity outlet and collected in the receptacle. The optional available cyclone-suction-combination has a **cooling effect on the sample** but also **improves the discharge of material** from the grinding chamber. The rotorspeed of 1.500 min⁻¹ ensures gentle and rapid size reduction.



[Click to view video](#)

CUTTING MILL SM 200

TECHNICAL DATA

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)	1,500 min ⁻¹
Rotor peripheral speed	9.4 - 11.4 m/s
Rotor diameter	129.5 mm
Types of rotors	parallel section rotor / 6-disc rotor
Types of hoppers	standard, 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 motor
Drive power	2.2 kW
Electrical supply data	different voltages
Power connection	3-phase
Engine brake	Yes
Protection code	IP54
W x H x D closed	576 (1090 opened) x 1675 x 760 mm (with base frame and standard hopper)
Net weight	~ 90 kg without hopper
Standards	CE

*depending on feed material and instrument configuration/settings

www.retsch.com/sm200

ORDER DATA

CUTTING MILL SM 200

**Cutting Mill SM 200 complete with collecting receptacle, 5 litres and base frame with wheels
(please order rotor, hopper and bottom sieve separately)**

20.728.0001		SM 200	3/N~ 400 V, 50 Hz
20.728.0002		SM 200	3/N~ 400 V, 50 Hz, for grinding without heavy-metal contamination

other electrical versions available for the same price

ROTORS SM 100, SM 200, SM 300

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 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

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 SM 100, SM 200, SM 300

BOTTOM SIEVES OF STAINLESS STEEL

03.647.0312		Trapezoid holes	0.25 mm
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03.647.0313		Trapezoid holes	0.50 mm
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03.647.0314		Trapezoid holes	0.75 mm
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03.647.0315		Trapezoid holes	1.00 mm
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03.647.0316		Trapezoid holes	1.50 mm
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03.647.0318		Square holes	2.00 mm
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03.647.0319		Square holes	3.00 mm
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03.647.0320		Square holes	4.00 mm
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03.647.0321		Square holes	6.00 mm
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03.647.0322		Square holes	8.00 mm
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03.647.0024		Square holes	10.00 mm
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03.647.0062		Square holes	20.00 mm
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BOTTOM SIEVES OF STEEL 1.0353 FOR GRINDING WITHOUT HEAVY-METAL CONTAMINATION

03.647.0325		Trapezoid holes	0.25 mm
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03.647.0326		Trapezoid holes	0.50 mm
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03.647.0327		Trapezoid holes	0.75 mm
03.647.0328		Trapezoid holes	1.00 mm
03.647.0329		Trapezoid holes	1.50 mm
03.647.0331		Square holes	2.00 mm
03.647.0332		Square holes	3.00 mm
03.647.0333		Square holes	4.00 mm
03.647.0334		Square holes	6.00 mm
03.647.0335		Square holes	8.00 mm
03.647.0359		Square holes	10.00 mm

ACCESSORIES SM 100, SM 200, SM 300

CYCLONE-SUCTION-COMBINATION FOR SM 200 / SM 300

22.020.0004		i Cyclone unit incl. 1 sample bottle 500 ml (to be used with industrial vacuum cleaner)
22.935.0024		Cyclone unit incl. collecting receptacle, 26 litre (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
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, 26 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

05.742.0008



Dust filters for ring-type filter, 1 piece (please order amount multiple of 25 pcs.)

22.187.0007



Filter hose for collecting receptacle, 5 litres, incl. holder

ACCESSORIES FOR ROTORS

05.908.0001

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
 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 for grinding without heavy-metal contamination

22.608.0035 Adjustment aid for cutting bars

ADDITIONAL ITEMS SM 100, SM 200, SM 300

22.225.0002  Replacement extraction tool for rotor

22.111.0003 Gasket for door SM 100 / SM 200 / SM 300, 1 piece

99.200.0013  IQ/OQ Documentation for SM 200

99.200.0014  IQ/OQ Documentation for SM 300