



## 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.



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## FOR UNIVERSAL APPLICATIONS

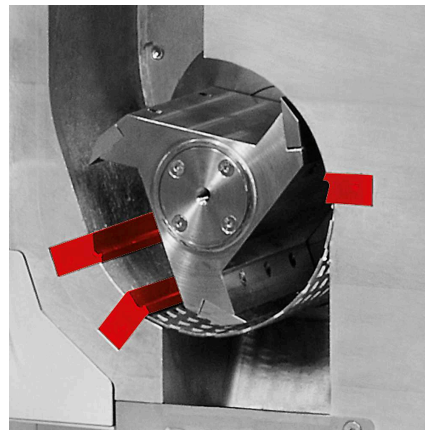
- | Feed size <60 x 80 mm
- | Defined final fineness due to bottom sieves with aperture sizes from 0.25 - 20 mm
- | Optimum cutting effects thanks to double acting cutting bars
- | Quick and easy cleaning due to smooth surfaces, fold back hopper, push-fit rotor and sieves
- | Operation with gravity outlet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



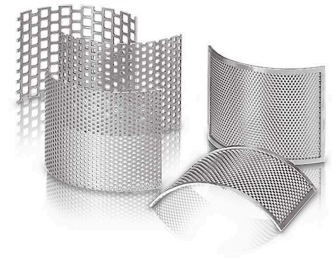
#### ROTOR TYPES

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

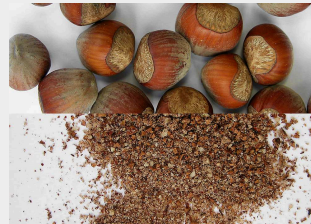
RETSCH cutting mills are suitable for a vast range of applications. Typical materials include PET preforms, aluminium slag, animal feed, bones, cables, cardboard, electronic components, feed pellets, foils, food, leather, lignite, material mixtures, non-ferrous metals, paper, pharmaceutical products,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



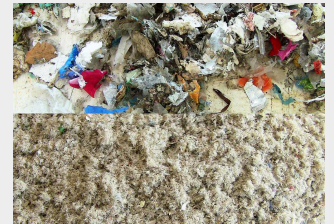
fish



wood

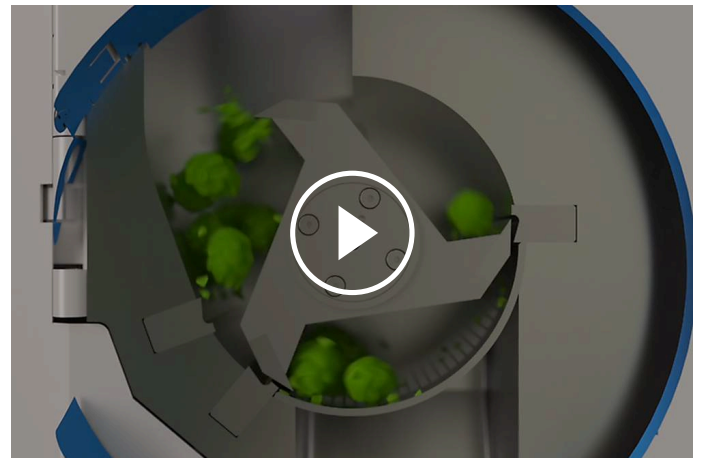


nuts



secondary fuels,  
biofuels

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 rotor speed of  $1.500 \text{ min}^{-1}$  ensures gentle and rapid size reduction.



[Click to view video](#)

## CUTTING MILL SM 200 - TECHNICAL DATA

<b>Applications</b>	size reduction by cutting
<b>Field of application</b>	agriculture, biology, chemistry / plastics, engineering / electronics, environment / recycling, food, medicine / pharmaceuticals
<b>Feed material</b>	soft, medium-hard, tough, elastic, fibrous
<b>Size reduction principle</b>	shearing, cutting
<b>Material feed size*</b>	< 60 x 80 mm
<b>Final fineness*</b>	0.25 - 20 mm
<b>Speed at 50 Hz (60 Hz)</b>	1,500 min <sup>-1</sup>
<b>Rotor peripheral speed</b>	9.4 - 11.4 m/s
<b>Rotor diameter</b>	129.5 mm
<b>Types of rotors</b>	parallel section rotor / 6-disc rotor
<b>Types of hoppers</b>	standard, long stock
<b>Material of grinding tools</b>	stainless steel, steel for heavy-metal free grinding, tungsten carbide
<b>Sieve sizes</b>	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
<b>Collector systems / capacities</b>	collecting receptacle 5 l / optional: 30 l collecting unit 0.25 / 0.5 l cyclone-suction combination (0.25 l - 30 l)
<b>Drive</b>	3-phase motor
<b>Drive power</b>	2.2 kW
<b>Electrical supply data</b>	different voltages
<b>Power connection</b>	3-phase
<b>Engine brake</b>	yes
<b>Protection code</b>	IP54
<b>W x H x D closed</b>	576 (1090 opened) x 1675 x 760 mm (with base frame and standard hopper)
<b>Net weight</b>	~ 90 kg without hopper
<b>Standards</b>	CE

\*depending on feed material and instrument configuration/settings



[www.retsch.com/sm200](http://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
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
03.647.0319		Square holes	3.00 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

03.647.0325		Trapezoid holes	0.25 mm
03.647.0326		Trapezoid holes	0.50 mm

03.647.0327		Trapezoid holes	0.75 mm
03.647.0328		Trapezoid holes	1.00 mm
03.647.0329		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	 ⓘ	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

#### 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

