



## 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

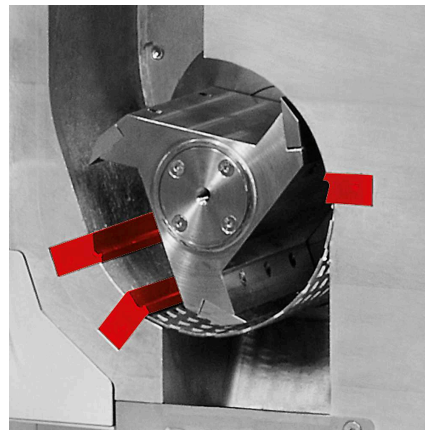
- | Feed size <60 x 80 mm
- | Defined final fineness due to bottom sieves with aperture sizes from 0.25 - 20 mm
- | Optimum cutting effects thanks to double acting cutting bars
- | Quick and easy cleaning due to smooth surfaces, fold back hopper, push-fit rotor and sieves
- | Operation with gravity outlet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



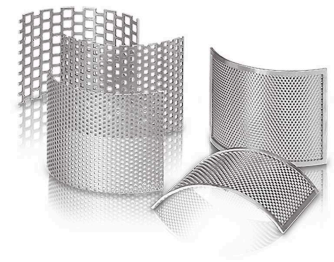
#### ROTOR TYPES

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

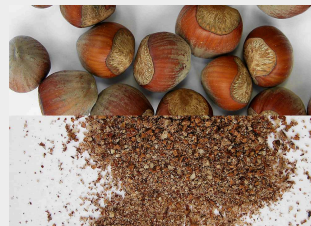
RETSCH cutting mills are suitable for a vast range of applications. Typical materials include PET preforms, aluminium slag, animal feed, bones, cables, cardboard, electronic components, feed pellets, foils, food, leather, lignite, material mixtures, non-ferrous metals, paper, pharmaceutical products,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



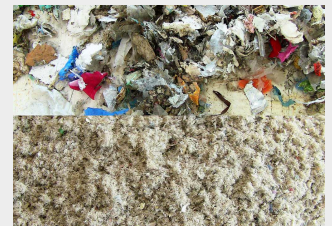
fish



wood

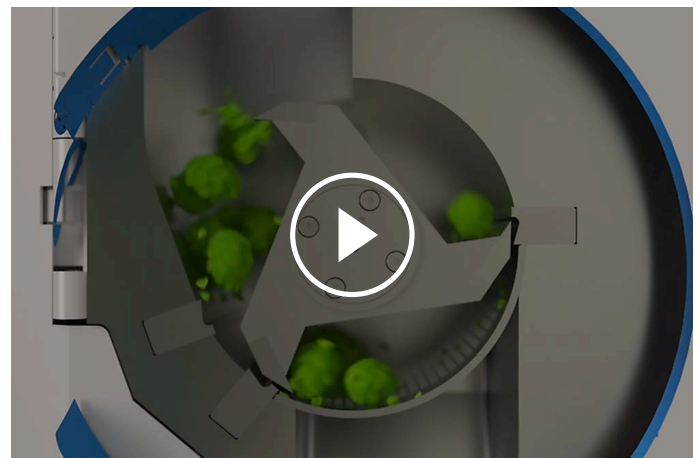


nuts



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 rotorspeed 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<br>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<br>collecting unit 0.25 / 0.5 l<br>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,<br>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<br>for SM 200 / SM 300 |
| 22.408.0003 |   | Long stock hopper with wooden plunger<br>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  |
| 03.647.0317 |   | Trapezoid holes | 2.00 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)  |
| 22.935.0039 |   | Cyclone unit incl. 30 litres collection receptacle (to be used with industrial vacuum cleaner). Requires 02.183.0156 cyclone outlet. |
| 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

05.045.0528  Collecting receptacle, 30 litres

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 pcs.

22.187.0007  Filter hose for collecting receptacle, 5 litres, incl. holder

#### ACCESSORIES FOR ROTORS



22.908.0001  Reversible cutting tip incl. screws, tungsten carbide, for 6-disc rotor (10 pcs.)

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