

RETSCHE Product Navigator

■ Milling

Jaw Crushers
Rotor Mills
Cutting Mills
- GM 200
- SM 100
- SM 2000
Mortar Grinders
Disc Mills
Ball Mills

■ Sieving

■ Assisting

Size reduction with knife and cutting mills



Knife mills for perfect homogenization

The cutting effect produced by a 2-blade rotor is especially suitable for the size reduction and homogenization of soft to medium-hard, dry, moist or wet materials.

Cutting mills for efficient preliminary size reduction

The cutting effect between fixed and moving sharp edges is particularly suitable for the preliminary size reduction of soft, medium-hard, elastic and fibrous materials.

Retsch[®]

Solutions in Milling & Sieving

Superiority in detail – technology from RETSCH

Knife Mill GRINDOMIX GM 200

RETSCH knife mills supply completely homogeneous analysis-grade size reduction results that allows samples to be taken from any location in the container.

RETSCH cutting mills are used for the preliminary size reduction of soft, medium-hard, fibrous and tough materials. A representative sub-sample should then be taken for the subsequent reduction down to analytical fineness.

Sample Dividers



No matter whether rotary sample dividers, rotary tube sample dividers or sample splitters – RETSCH sample dividers will provide you with representative sub-samples from pourable powders and bulk materials.

The following **fine size reduction** can then be carried out with the following RETSCH mill, for example:

Ultra Centrifugal Mill



The RETSCH ultra centrifugal mill effortlessly reduces the size of soft, medium-hard and brittle materials with a feed size of up to 10 mm. A final fineness of down to <math>< 40 \mu\text{m}</math> can be achieved.

Complete sample homogenization



In conventional knife mills (e.g. household mixers) the sample can separate out and no longer be subjected to the size reduction process. This means that some part of the sample has not been fully reduced in size. In contrast, with the GRINDOMIX you will always obtain an optimal and completely homogeneous sample. The sample is so homogeneous that it is possible to **take a random, yet representative sample from any location in the grinding container**. With the GRINDOMIX GM 200, **standard deviations from the analytical results have proved to be 10 x smaller than with household mixers!**

The illustration shows a comparison between the degree of size reduction of raw potatoes homogenized with a household mixer (top) and the GRINDOMIX GM 200 (below)

Universal use

As a result of the combination of grinding containers and container lids as well as the appropriate parameter settings, the GRINDOMIX can be adapted to meet a wide range of sample preparation applications. This means that it is suitable for use in many sectors, e.g.:

- Foods, drugs, coffee, tea, cigarettes, etc.
- Animal feeds
- Biology
- Microbiology



The illustration shows a glass vessel with gravity lid

Gravity lid provides variable-volume grinding chamber

This RETSCH innovation (**Patent EP 906 741**) optimizes the grinding chamber during the size reduction process and in this way ensures outstandingly good results. See page 5 for more details.

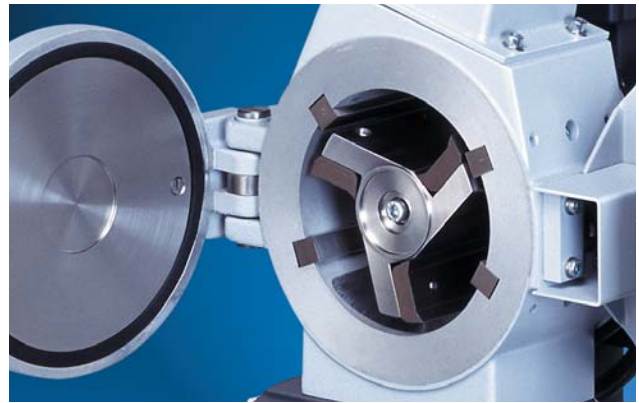
Cutting Mill SM 100

Economically priced

The SM 100 is an economically priced powerful cutting mill that is particularly suitable for size reduction of soft, medium-hard, elastic or fibrous materials, whose size can be reduced without requiring the use of extremely high forces.

Heavy-metal-free cutting tools

Cutting plates made of steel St 52, cutting bars made of steel 1.1740 and bottom sieves made of steel St 1303 ensure particular reliability for subsequent heavy metal analyses.



View into the grinding chamber of the SM 100 (parallel section rotor with 3 knives and 4 stationary cutting bars in grinding chamber)

Heavy-Duty Cutting Mill SM 2000



View into the grinding chamber of the SM 2000 (with universal 6-disc rotor for particularly powerful tangential cutting)

Powerful, efficient and safe

The SM 2000 has a particularly powerful 1.5 kW motor with an additional flywheel mass. The motor ensures extremely good throughput and produces an **excellent cutting performance** even with hard thick-walled products. For safety reasons the chamber housing can only be opened when the rotor is fully at rest. A motor protection switch and electronic safety check with diagnostic system guarantee perfect operation.

Efficient and convenient operation

All electronic control elements are operated via a touch-sensitive keypad. The housing folds back to provide free access to the grinding chamber. This makes the cleaning of the sample-contacting parts much easier and also allows the bottom sieves to be exchanged without the use of special tools. The reversible cutting plates on the rotors can be used several times by simply changing sides.



Heavy-metal-free cutting tools

Heavy-metal-free cutting tools are available for the SM 2000.

Knife Mill GRINDOMIX GM 200



The new dimension in food sample preparation

In food or nutritional laboratories, in chemical or biological research institutes – homogeneous sample material is required everywhere for the accurate analysis of food and feed materials (Several organizations, including the Federal Institute for Risk Assessment, Germany, recommend the GRINDOMIX GM 200 for the sample preparation to analyses on acrylamide). With the GRINDOMIX GM 200 knife mill, RETSCH has designed a size reduction and homogenization instrument that meets and exceeds all special laboratory and analytical requirements. It can process substances with a high water, oil or fat content just as quickly and reliably as dry, soft and medium-hard products. RETSCH now offers a professional alternative to commercially available household mixers.

As well as fruit, vegetables, sausages, meat, fish, cheese, ham or deep-frozen products, the GRINDOMIX mill is also suitable for feed pellets, spices, seeds and seedlings. With its special cutting knife system and variable-volume grinding chamber, the GRINDOMIX can process these substances quickly and easily to provide homogeneous analytical samples.

Benefits at a glance

- Very rapid and gentle size reduction and homogenization of food and feed materials
- Powerful speed-controlled 750 W industrial motor
- Speed pre-selectable, range 2000 - 10000 min⁻¹
- Digital display of grinding time and speed
- Interval operation possible
- Three memory keys
- Gravity lid for automatic grinding chamber volume adaption
- Comprehensive range of accessories
- Sample vessel easy to clean and exchange
- 2-year warranty, CE-conforming

Simple and convenient handling

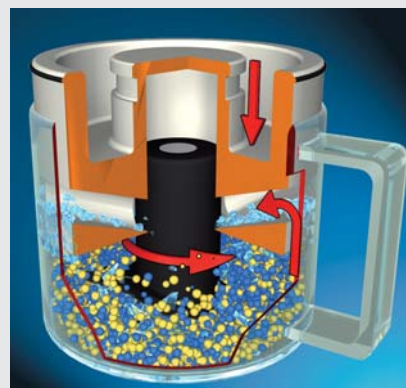
Working with the GRINDOMIX knife mill from RETSCH is **extremely user-friendly**. The grinding vessel and knives are easily attached. When the size reduction process has finished the motor switches off automatically. The vessel, with its lid, inserted knives and sample, can be removed and attached as a complete unit. In contrast to conventional mixers, the grinding container can be filled outside the instrument which also makes emptying and cleaning very convenient. Cross-contamination by sample residues is eliminated.

The operation of the GM 200 is easy and comfortable. The speed can be freely selected in steps of 500 min⁻¹ in the range 2000 to 10000 min⁻¹. The time can be set between 1 second and 3 minutes. The speed and running time can be read off from a digital display. Three memory keys allow for storage of frequently-used parameter combinations. In this way the GM 200 guarantees reproducible analytical results. It is also possible to operate the GM 200 in interval mode (ideal for products with a tough elastic consistency).

Knife Mill GRINDOMIX GM 200 technology

Two straight knives, which are arranged at different heights at right angles to the direction of rotation, rotate in the center of the grinding vessel (Double Level Knife System). The sharp and slim steel blades comminute and homogenize reliably. In order to protect them from damage by hard sample material, they are provided with a counterblade.

The powerful industrial motor with its 750 W continuous rating (1200 W for short periods) drives the knives directly. Pre-selectable speeds, held constant by the electronics, ensure that even difficult samples are comminuted and homogenized in only 10 to 30 seconds.



Performance that convinces

Fast, precise and flexible sample preparation

Even after an operation time of only 10 to 30 seconds, most of the samples processed by the GRINDOMIX are so homogeneous that a random but nevertheless representative sample can be taken. In comparison to samples prepared with normal household mixer the analytical results can be shown to have a **standard deviation which is up to 10 times smaller**. This applies even to difficult substances such as streaky bacon or heterogeneous types of meats.

The short grinding time and the possibility of choosing between different vessels and lids guarantees efficient individual or serial sample preparation. In this way the GRINDOMIX GM 200 provides the best preconditions for representative sampling and reliable analytical results.

The standard equipment of the GM 200 includes an attachable 1 liter plastic container with a polypropylene (PP) lid as well as an attachable two-blade knife made of stainless steel. A Lexan cover protects the grinding chamber and container. The housing can be completely recycled.

Performance data		GM 200		
Applications	size reduction, homogenization and mixing			
Feed material	soft, medium-hard, elastic; containing water, fat or oil, dry			
Feed size*	10 - 40 mm			
Final fineness*	<300 µm			
Grinding chamber volume with	standard lid	reducing lid	gravity lid	
	1000 ml	500 ml	400 - 1000 ml	
Max. feed quantity	700 ml	300 ml	300 ml	
Speed setting	digital, 2000 - 10000 min ⁻¹			
Grinding time setting	digital, 1 second - 3 minutes			
Interval operation	yes			
Technical data				
Drive	series wound motor			
Power consumption	750 W			
Protection code	grinding chamber and keypad: IP 42 near ventilation slots: IP 20			
W x H x D	200 x 370 x 270 mm			
Weight (without accessories)	approx. 7.5 kg			
Noise values (noise measurement according to DIN 45635-31-01-KL3)				
Emission value with regard to workplace	L _{pAeq} 66.9 dB(A)			
Measuring conditions:				
Container	glass container with gravity lid			
Sample	quartered tomatoes, approx. 40 x 25 mm			
Sample weight	100 g			
*depending on feed material and instrument configuration/settings				

Patented – the variable-volume grinding chamber of the GRINDOMIX GM 200

In order to prevent the sample being thrown against the container walls by the rotating knives and therefore not being subjected to the size reduction process, the gravity lid developed by RETSCH reduces the volume of the container (patent EP 906 741). This piston-like lid is free-floating and during the comminution process, it drops under its own weight so that it always rests directly on the sample material. In this way the GRINDOMIX knife mill can achieve an optimal degree of homogenization suitable for modern analytical methods within a very short time.



The gravity lid can also be supplied with overflow channels as an option. This lid is particularly suitable for products with a very high liquid content. The cell liquid released at the start of the comminution process can separate out by centrifugal force and flow up the container walls as a thin film. If this liquid penetrates the gap between the gravity lid and the container wall

then it is returned to the center of the container via the overflow channels. The result is perfect homogenization.

A complete overview of the accessories for the GM 200 is given on the following page.

Accessories and extras for GM 200

A range of different containers and lids is available for the RETSCH knife mill and can be used to optimally adapt the GRINDOMIX for a particular application.

Grinding containers

The selection of the right grinding container depends on the products that are to be reduced in size. Standard plastic containers are suitable for the majority of applications. Other cutting containers are available as accessories for special applications.

1 Standard plastic container, PP

Part of the standard delivery of the GRINDOMIX. For soft and elastic materials, products containing water, oils and fats.

2 Glass container (borosilicate glass)

Suitable for the same products as the plastic container. Additional advantages: the cutting process can be observed through the glass walls; it can also be sterilized and autoclaved.

3 Stainless steel container

Suitable for soft, medium-hard and elastic materials, products containing water, oils and fats. Particularly recommended for comminuting medium-hard products such as cereals, nuts or feed pellets. It keeps its shape even under excessive loads and can also be sterilized and autoclaved.



Grinding container lids

The various container/lid combinations allow adaptation to different applications.

4 Standard lid, PP

Part of the standard delivery of the GRINDOMIX. For use with large sample amounts of small materials such as seeds as well as meat, fish and cheese. If this lid is used then the maximum amount of sample is between 300 ml and 700 ml.

5 Lid, PP, for grinding chamber reduction to 500 ml

For smaller amounts of small samples (max. 300 ml) it is advisable to reduce the grinding chamber volume. This lid can only be used with the standard plastic container.

6, 7 Gravity lid, PP

The gravity lid allows the exact adaptation of the grinding chamber volume to the particular amount of sample. It moves downward during the comminution process and optimizes the grinding chamber volume. It is available without (6) and with (7) overflow channels. The latter is used with water-containing materials such as potatoes, sweet peppers, salads or tomatoes. The maximum amount of sample is 300 ml. Separate gravity lids are available for all types of containers.

Scraper and knives

8 Scraper

Facilitates the recovery of sticky samples from the container.

9 Knife

Made of stainless steel (standard) or titanium, with PVDF knife cylinder. Sterilizable and autoclaveable. Cutting angle 15°, counterblade angle 30°.

Order data GM 200

GRINDOMIX GM 200			Item No.
GRINDOMIX GM 200, complete with standard plastic container, PP, standard lid, PP, and stainless steel knife			
GM 200 for 230 V, 50/60 Hz			20.251.0001
GM 200 for 100-120 V, 50/60 Hz			20.251.0003
Cutting container for GM 200	material:	st. steel (1.4435) borosilicate glass 3.3	PP
Cutting container, 1 liter		03.045.0050 03.045.0046	03.045.0047
Container lid for GM 200	for container:	st. steel (1.4435) borosilicate glass 3.3	PP
Standard lid, PP		03.107.0309 03.107.0309	03.107.0309
Lid, PP, for chamber reduction to 0.5 liter		- -	03.107.0310
Gravity lid, PP, with overflow channels		02.107.0308 02.107.0308	02.107.0323
Gravity lid, PP		02.107.0328 02.107.0328	02.107.0327
Accessories and spare parts for GM 200			
Scraper, for easier recovery of sticky samples			05.723.0001
Knife, titanium, with PVDF knife cylinder			02.446.0021
Spare knife, stainless steel, with PVDF knife cylinder			02.446.0014

Cutting Mill SM 100 comfort



Benefits at a glance

- Rapid and gentle size reduction of dry materials
- Defined final fineness by use of bottom sieves
- 3 different hoppers for different materials
- Samples subjected to low thermal stress
- Nearly dust-free comminution
- Easily exchangeable cutting tools, long working life
- 2-year warranty, CE-conforming

Comminution with a cutting effect

The RETSCH Cutting Mill SM 100 reduces the size of soft, medium-hard, elastic and fibrous materials or mixtures of materials quickly and gently. It is particularly suitable for the batchwise or continuous preliminary size reduction of dry materials such as plant parts, plastics, feeds, spices and drugs, lignite, paper, cardboard, etc. Long-fiber samples such as straw and voluminous materials such as plastic beakers can be comminuted in a single process without any preliminary size reduction. The final fineness always depends on the bottom sieve used and the properties of the sample. For example, this may be between approx. 2 – 4 mm for plastics and 0.25 – 1 mm for dry spices.

Comfortable and reliable

The SM 100 is very simple to operate. Thanks to the comfort flange the filter hose and collecting vessel are easy to attach. With its quick-clamping release device and built-in motor brake the grinding chamber is easily and quickly accessible after each comminution process. This is particularly advantageous if several sample types need to be processed. The special shape of the cutting tools combined with the drive ensures rapid and efficient comminution without subjecting the sample to excessive cutting stress.

The wide range of accessories ensures that the SM 100 is suitable for a very wide range of applications. A special version of the SM 100 is available for **heavy-metal-free size reduction**.

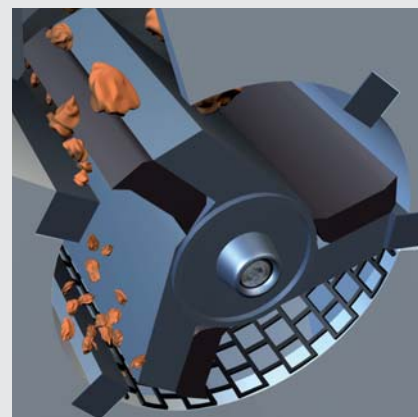
The standard equipment includes a **parallel section rotor** with 3 blades and a 5 liter collecting receptacle with filter bag. The feed hopper and bottom sieves should be selected according to the particular application. Three different feed hoppers optimized for feeding different materials are available. Depending on the necessary final fineness, bottom sieves with perforations from 0.25 mm up to 20 mm can be used. The mill can be attached to a bench or a wall bracket; however, it is preferable to mount it on the optional base frame.

An overview of the performance features of the SM 100 as well as further information about hoppers and bottom sieves can be found on pages 10 and after.

Cutting Mill SM 100 technology

Size reduction in the cutting mill takes place by cutting and shearing forces. The sample passes through the hopper and into the grinding chamber where it comes into contact with a rotor equipped with three cutting blades; it is comminuted between the blades and the four stationary cutting bars inserted in the housing. The chamber dwell time is short; as

soon as the sample can pass through the openings of the bottom sieve it is discharged and collected in the receptacle. The rotor speed of 1390 min^{-1} at 50 Hz (1690 min^{-1} at 60 Hz) ensures gentle, rapid and nearly dust-free size reduction. The motor rating is 1500 W. The ground product is quickly discharged by using a filter bag or a ring filter.



Heavy-Duty Cutting Mill SM 2000



Powerful size reduction

The RETSCH Cutting Mill SM 2000 is a particularly powerful and user-friendly machine for the batchwise or continuous size reduction of tough, medium-hard, soft, elastic, fibrous and thermally sensitive materials or heterogeneous mixtures of materials.

Running slowly or quickly with various rotors and hoppers it is used to comminute a wide range of substances, including organic and inorganic waste and different types of material mixtures, sorted household waste, plastic products, computer and electronic waste, cables, light metal scrap, secondary fuels, plant parts, rubber, wood, foils, leather (to DIN 53 303), bones, non-ferrous metals, cardboard, paper, scraps of fabrics, carpets or skins, feed pellets and much more.

The SM 2000 is ideal for preparing samples for heavy metal analysis within the context of RoHS and WEEE regulations.

Benefits at a glance

- Powerful size reduction, even of heterogeneous mixtures
- Defined final fineness
- Low heat build-up
- Wide range of accessories for universal use
- Central locking device
- Fold-back housing
- Easy cleaning
- Robust, safe design
- 2-year warranty, CE-conforming

Powerful – user-friendly – safe

The Cutting Mill SM 2000 is available with two different running speeds. The 695 min⁻¹ version at 50 Hz (835 min⁻¹ at 60 Hz) is particularly recommended for large pieces of tough and thermally sensitive materials; the 1390 min⁻¹ version at 50 Hz (1690 min⁻¹ at 60 Hz) is suitable for smaller materials which are easier to reduce in size. Thanks to the fold-back housing it is easy to clean the grinding chamber

and exchange the bottom sieves. The patented central locking device (patent DBP 4110239) makes it possible to lock and unlock the upper part of the housing and the chamber door very quickly and safely with a single action. A safety switch prevents the mill from being switched on with the door open. The SM 2000 also has an electronic safety check with built-in diagnosis system.

Heavy-Duty Cutting Mill SM 2000 technology

Size reduction in the Cutting Mill SM 2000 takes place by cutting and shearing forces. The sample comes into contact with the rotor, which is suspended in bearings on both sides, and is comminuted between the blades and the stationary 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. As additional flywheel mass on the drive shaft produces the exceptional performance which is typical for the SM 2000; this is otherwise only achieved by motors with double the power rating. The SM 2000 is available with a 1.5 kW single-phase or 3-phase motor.



Versatile and strong



View into the fold-back housing of the SM 2000 with collecting unit for wide mouth bottles

The standard equipment of the RETSCH Heavy-Duty Cutting Mill SM 2000 includes a base frame as well as a 5 liter collecting receptacle made of stainless steel.

The cutting tool should be chosen according to the particular application. The hopper should be selected according to the type and size of sample, the bottom sieve according to the required final fineness (see page 11).

For small sample volumes a special collecting unit for 250/500 ml wide mouth bottles is available. For a higher throughput the SM 2000 can be retrofitted with a 30 liter plastic

receptacle. If bottom sieves with a small perforation size are used then the use of a textile filter bag or a ring filter made of stainless steel Conidur plate (perforation 63 μm) between the SM 2000 and the receptacle is recommended. The flow of air produced by the rotor is channeled away to prevent blockage which in turn, accelerates sample throughput resulting in a gentler grinding process.

The SM 2000 is also available in a special version for **heavy-metal-free size reduction**.

Rotors for SM 2000

2 different rotor versions are available for the SM 2000: a 6-disc rotor and a parallel section rotor.

The **6-disc rotor** with its 18 replaceable and reversible hard metal cutting plates is suitable for universal use.

Applications for SM 2000 with 1390 min^{-1} (1690 min^{-1}) motor

- Branches, roots, bamboo, compost
- Ductile drilling and milling shavings made of plastic or non-ferrous metal
- Pre-embrittled materials

Applications for SM 2000 with 695 min^{-1} (835 min^{-1}) motor

- Plastic films and textiles
- Rubber and special waste
- Sorted household and communal waste
- Plastic moldings
- Electronic scrap without iron and steel parts
- Beverage cans
- Carpet cutoffs
- Plastic granulates
- Dogs' chewing straps and bones

1. 6-disc rotor
2. Spare reversible cutting plates for 6-disc rotor
3. Parallel section rotor
4. Spare knife for parallel section rotor



The **parallel section rotor** is particularly suitable for soft, elastic and fibrous materials.

Applications for SM 2000 with 1390 min^{-1} (1690 min^{-1}) motor

- Plant parts, straw, hay
- Feeds
- Spices and drugs
- Paper, cardboard

Applications for SM 2000 with 695 min^{-1} (835 min^{-1}) motor

- Plastic beakers, packaging
- Lignite
- Spices and drugs which contain small amounts of oil

Both the 6-disc rotor and the parallel section rotor are available in steel St 52 **for heavy-metal-free size reduction**.

The ideal cutting mill to suit your needs

Choice of cutting mill

The **SM 100 comfort** is primarily used for the size reduction of products such as feed pellets, biological substances or plant parts.

The **SM 2000** is used for reducing the size of heterogeneous mixtures of substances with various breaking

behaviors, such as waste, light metal scraps from auto-shredders, waste rubber, hard, thick-walled or abrasive products. In comparison to the SM 100, the SM 2000 offers considerably increased operating convenience (grinding chamber access, touch-sensitive keypad). The low-speed version in particular can powerfully reduce the size of even difficult materials.

The versions with different speeds and the comprehensive range of optimized accessories make the SM 2000 extremely versatile.

The following table provides a detailed overview of the performance features of RETSCH cutting mills:

Performance data	SM 100 comfort	SM 2000 low-speed	SM 2000 high-speed
Applications	size reduction by cutting	size reduction by cutting	
Feed material	soft, medium-hard, elastic, fibrous	soft, medium-hard, tough, elastic, fibrous	
Feed size*	max. 60 x 80 mm	max. 60 x 80 mm	
Final fineness*	0.25 - 20 mm	0.25 - 20 mm	
Collecting receptacle	5 liter (standard) 30 liter (option)	5 liter (standard) 0.25 / 0.5 / 30 liter (option)	
Throughput*	0.2 - 50 kg/h	0.2 - 50 kg/h	
6-disc rotor	-	option	
Parallel section rotor	standard	option	
Technical data			
Drive	1- and 3-phase motors	3-phase- motor	1- and 3-phase motors
Motor brake	yes	no	no
Motor speed at 50 Hz	1390 min ⁻¹	695 min ⁻¹	1390 min ⁻¹
Motor speed at 60 Hz	1690 min ⁻¹	835 min ⁻¹	1690 min ⁻¹
Nominal rating	1500 W	1500 W	1500 W
W x H x D (with support and standard hopper)	approx. 560 x 1415 x 700 mm	approx. 550 x 1415 x 600 mm	
Net weight	approx. 68 kg	approx. 119 kg	approx. 88 kg
Noise values (noise measurement according to DIN 45635-31-01-KL3)			
Emission value with regard to workplace	L _{pAeq} 81 dB(A)	L _{pAeq} 79 dB(A)	
Measuring conditions:			
Feed material	feed pellets	bark mulch	
Feed size	up to 15 mm	<100 mm	
Bottom sieve	0.5 mm Conidur	4 mm square perforations	

*depending on feed material and instrument configuration/settings

Tips for perfect results

- With very thin, thermally sensitive samples such as plastic films optimal results are obtained by **mixing with dry ice**.
- Optimal results are obtained with sticky products such as rubber, elastomers or gelatin-based products by **mixing them with talcum**.
- Rubber and thermoplastics can

be comminuted in cutting mills without any problems after **pre-embrittlement with liquid nitrogen**.

- If a very small final fineness is required then larger sized samples can be protected by first carrying out preliminary size reduction using a bottom sieve with large perforations.



Wood



Dogs' chewing bones



Plastic moldings

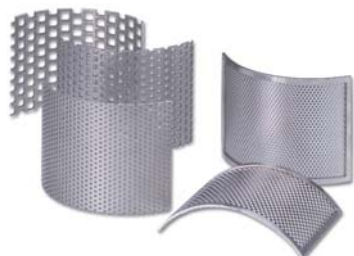


Electronic scrap

Accessories for SM 100 and SM 2000

A comprehensive range of accessories is available for the RETSCH Cutting Mill SM 100 and Heavy-Duty Cutting Mill SM 2000

Choosing the bottom sieve



The bottom sieve is selected according to the type of sample and degree of final fineness required. Coarse preliminary size reduction can also be carried out without a bottom sieve. Sieves with a perforation size up to 2 mm have a Conidur perforation; sieves 4 mm and above have square perforations. The standard sieve versions are made of stainless steel. Bottom sieves made of steel St 1.303 / 1.0353 are also available for heavy-metal-free size reduction.

Choosing the hopper

The **standard hopper** is suitable for universal use and for feeding most of the bulk and individual samples. The maximum input opening is 80 x 75 mm. The hopper is supplied with a wooden feed plunger. For special applications plungers made from plastic or aluminum are available.

The **long stock hopper** is specially designed for feeding in long samples. The maximum input opening is 30 x 80 mm. A wooden feed plunger is supplied as standard.

The **cascade hopper** has a rebound guard and is therefore ideally suited for safely feeding in bulk goods. The maximum input opening is 20 x 80 mm; the maximum feed size is 20 mm.



1. standard hopper
2. long stock hopper
3. cascade hopper

Other accessories

For a higher throughput the 5 liter collecting receptacle can be replaced by a 30 liter plastic receptacle. Filter bags and Conidur ring filters with and without dust filters can be used to improve the airflow. If dust filters are used then the size reduction process is accelerated and possible blockages are prevented.

Order data

Accessories for Cutting Mill SM 100 and Heavy-Duty Cutting Mill SM 2000							Item No.
Feed hoppers for SM 100 and SM 2000			standard, short version	long stock	cascade		
Feed hopper			01.747.0040	22.408.0001	22.730.0001		
Plastic plunger, for standard feed hopper, short version					22.725.0008		
Aluminum plunger, for standard feed hopper, short version					22.725.0009		
Bottom sieves for SM 100 and SM 2000							
Conidur perforations, stainless steel		0.25 mm	0.50 mm	0.75 mm	1.00 mm	1.50 mm	
for standard size reduction		03.647.0168	03.647.0169	03.647.0170	03.647.0171	03.647.0172	
Square perforations, stainless steel		2.00 mm	4.00 mm	6.00 mm	8.00 mm	10.00 mm	20.00 mm
for standard size reduction		03.647.0167	03.647.0020	03.647.0022	03.647.0023	03.647.0024	03.647.0062
Conidur perforations, steel St 1.303 / 1.0353		0.25 mm	0.50 mm	0.75 mm	1.00 mm	1.50 mm	
for heavy-metal-free size reduction		-	03.647.0003	03.647.0004	03.647.0005	-	
Square perforations, steel St 1.303 / 1.0353		2.00 mm	4.00 mm	6.00 mm	8.00 mm	10.00 mm	20.00 mm
for heavy-metal-free size reduction		-	03.647.0211	-	03.647.0299	-	-
Other accessories for SM 100 and SM 2000							
Collecting unit 250/500 ml, incl. 2 wide mouth bottles (SM 2000 only)							22.003.0006
Collecting receptacle, 30 liter, plastic							22.003.0001
Filter bag for 30 liter collecting receptacle, length 490 mm							01.186.0013
Collecting receptacle, stainless steel, 5 liter							01.011.0023
Filter bag for 5 liter collecting receptacle, length 240 mm, incl. comfort flange							22.187.0003
Spare filter bag for 22.187.0003							02.186.0027
Ring filter with Conidur plate for 5 liter collecting receptacle							22.187.0001
Dust filter clamping rings for ring filter, with 5 dust filters							22.748.0001
Dust filters for ring filter, 25 pieces							22.524.0002
Dirt collection tray, plastic							22.704.0001

Order data

Cutting Mill SM 100		Item No.	Item No.
Supplied with parallel section rotor , filter bag (240 mm) and 5 liter collecting receptacle (please order feed hopper, bottom sieve and base frame separately)			
Cutting Mill SM 100 comfort		for standard size reduction	for heavy-metal-free size reduction
SM 100 comfort	for 230 V, 50 Hz	rotor made of st. steel	rotor made of steel St 52
SM 100 comfort	for 3/N~400 V, 50 Hz	rotor made of st. steel	rotor made of steel St 52
SM 100 comfort	for 110 V, 60 Hz	rotor made of st. steel	rotor made of steel St 52
Accessories for SM 100			
Order numbers for feed hoppers, bottom sieves and other accessories can be found on the previous page			
Base frame for SM 100			01.824.0028
Roller set for base frame SM 100			22.609.0003
Spare parts for SM 100		for standard size reduction	for heavy-metal-free size reduction
Parallel section rotor		made of st. steel	made of steel St 52
Knives, 1 set (3 pieces)		made of chrome steel	made of steel 1.1740
Stationary cutting bars, 1 set (4 pieces)		made of st. steel	made of steel 1.1740

Heavy-Duty Cutting Mill SM 2000		Item No.	Item No.
Supplied with 5 liter collecting receptacle and base frame (please order rotor, feed hopper and bottom sieve separately)			
Cutting Mill SM 2000		for standard size reduction	for heavy-metal-free size reduction
SM 2000	for 3/N~400 V, 50 Hz	695 min ⁻¹	695 min ⁻¹
SM 2000	for 3/N~400 V, 50 Hz	1390 min ⁻¹	1390 min ⁻¹
SM 2000	for 3 x 220 V, 60 Hz	835 min ⁻¹	835 min ⁻¹
SM 2000	for 3 x 220 V, 60 Hz	1690 min ⁻¹	1690 min ⁻¹
Rotors for SM 2000		for standard size reduction	for heavy-metal-free size reduction
6-disc rotor for	695 / 835 min ⁻¹	made of st. steel	made of steel St 52
6-disc rotor for	1390 / 1690 min ⁻¹	made of st. steel	made of steel St 52
Parallel section rotor for	695 / 835 min ⁻¹	made of st. steel	made of steel St 52
Parallel section rotor for	1390 / 1690 min ⁻¹	made of st. steel	made of steel St 52
Accessories for SM 2000			
Order numbers for feed hoppers, bottom sieves and other accessories can be found on the previous page			
Collecting unit 250/500 ml, incl. 2 wide mouth bottles			22.003.0006
Holder for bottom sieve or rotor tools made of steel sheet			22.905.0001
Spare parts for SM 2000		for standard size reduction	for heavy-metal-free size reduction
Reversible cutting plates for 6-disc rotor, 10 pcs.		made of hard metal	made of hard metal
Stationary cutting bars, 1 set (4 pieces)		made of st. steel	made of steel 1.1740
Knives for parallel section rotor, 1 set (3 pieces)		made of chrome steel	made of steel 1.1740
Door seal SM 2000			03.241.0061
Other mains connections available on request			

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