



## HAMMER MILL HM 200

Rugged design meets high final fineness

**Hammer mills are used for crushing, pulverizing and deagglomeration of medium-hard, hard, brittle, tough and fibrous samples.**

The rugged RETSCH Hammer Mill HM 200 accepts

large feed sizes up to 100 mm which can be reduced to less than 0.8 mm, depending on the sample properties.

The mill is ideally suited for processing large volumes batchwise or continuously which ensures high sample throughput. Thanks to features like rugged design, easy handling and quick cleaning, the HM 200 is equally suitable for use in laboratories or pilot plants.

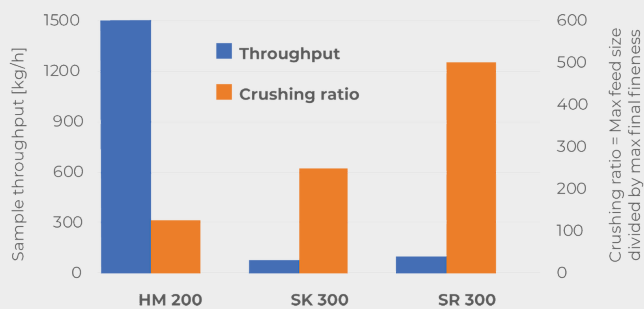


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HAMMER MILL HM 200

## HIGH THROUGHPUT & DEFINED FINAL FINENESS

This diagram shows a comparison of the Hammer Mill HM 200 with two rotor mills. The extremely high sample throughput of the HM 200 is clearly visible. The HM 200 shows a good crushing efficiency of 125, which is the value of the maximum feed size divided by the finest achievable grind size. The SR 300 and SK 300 accept a maximum feed size of 25 mm (unlike the HM 200 which accepts sizes up to 100 mm) and crush particles to a size below 0.05 mm or 0.1 mm respectively - resulting in a higher crushing ratio.



### Benefits at a glance

- | Excellent crushing performance
- | Very high throughput of up to 1500 kg/h
- | Fixed speed of 3000 min<sup>-1</sup>
- | Sieve range from 2 - 40 mm
- | Feed size up to 100 mm, grind size < 0.8 mm
- | Easy access to crushing chamber facilitates cleaning
- | For batchwise or continuous grinding
- | Connector for dust extraction

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## USER CONVENIENCE COMBINED WITH MAXIMUM SAFETY

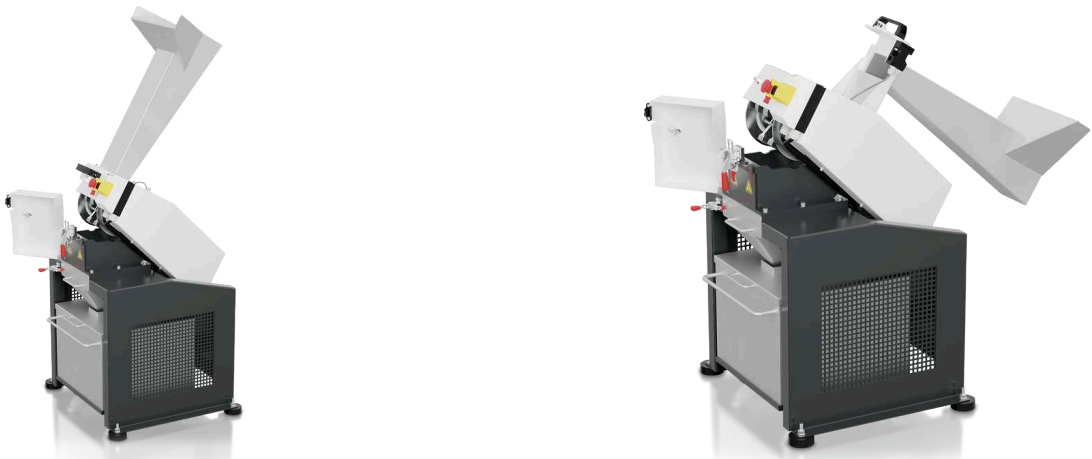
Easy cleaning of the rotor and the hammers thanks to

- | Fold-back hopper to gain access to the crushing chamber from above
- | Additional fold back option in the middle part of the machine allows easy cleaning of rotor and hammers from below

To ensure a long service life of the machine, even when mostly used for tough crushing tasks, the following parts can be exchanged by the user:

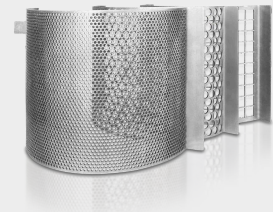
- | Wear plates inside the mill
- | Rotor with the swing hammers

A safety switch and the brake motor ensure that the unit comes to an immediate stop, e.g. if the door is opened unintentionally.



## DEFINED PARTICLE SIZE THANKS TO DIFFERENT SIEVES

The achievable final fineness of the sample depends on the material's properties. Hard and brittle materials can be easily crushed in the HM 200 down to particle sizes below 0.8 mm. The range of sieves with aperture sizes from 2 mm to 40 mm allows for perfect adaption to application requirements.



Tough, fibrous, or moist samples like plastic toys, wood or humid coal can be successfully crushed in the hammer mill when choosing a sieve with medium to large aperture size.

### HAMMER MILL HM 200

## HOPPERS AND COLLECTING SYSTEMS

The HM 200 is suitable for batchwise as well as continuous grinding and can be equipped with different hoppers and collecting systems.

- | Standard hopper for quick and easy feeding of large sample amounts
- | Batch hopper for feeding approximately 600 ml in one go with very little dust development
- | Standard collector for size reduction of sample amounts up to 10 l
- | For large volumes a collector is available which accommodates up to 30 l
- | Continuous operation: Use the continuous gravity outlet and a customer specific collecting system



**Standard hopper**



**Hopper for batch operation**



**Collecting receptacle  
10 l**



**Collecting receptacle  
30 l**



**Gravity outlet for  
continuous  
operation**

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## TYPICAL SAMPLE MATERIALS

RETSCH's powerful hammer mill is ideally suited for preliminary crushing and fine grinding of ores, granite, ceramics, quartz, slag, soil, coal, glass, cement clinker, wood, plastics, feed pellets, dry animal feed, dried herbs etc.



*glass*



*coal*



*animal feed*



*herbs*

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

HAMMER MILL HM 200

## TECHNICAL DATA

<b>Applications</b>	coarse and pre-crushing, desagglomeration
<b>Field of application</b>	agriculture, chemistry / plastics, coal, construction materials, engineering / electronics, environment / recycling, food / feed, geology / metallurgy, glass / ceramics
<b>Feed material</b>	medium-hard, hard, brittle, tough, fibrous
<b>Size reduction principle</b>	impact, shearing
<b>Material feed size*</b>	< 100 mm
<b>Final fineness*</b>	< 0.8 mm
<b>Batch size / feed quantity*</b>	< 0.6 l with batch hopper; 30 l with standard hopper
<b>Speed at 50 Hz (60 Hz)</b>	3000 min <sup>-1</sup> (3500 min <sup>-1</sup> )
<b>Throughput*</b>	1500 kg/h
<b>Rotor peripheral speed</b>	31.4 m/s
<b>Rotor diameter</b>	200 mm
<b>Types of rotors</b>	10 swing hammer
<b>Dry grinding</b>	yes
<b>Wet grinding</b>	no
<b>Cryogenic grinding</b>	no
<b>Material of grinding tools</b>	hardened steel 1.0503 (hammers); steel 1.0330 (sieves)
<b>Sieve sizes</b>	2 / 3 / 4 / 5 / 6 / 8 / 10 / 15 / 40 mm
<b>Dust extraction unit</b>	yes
<b>Process line version</b>	yes
<b>Collector capacity</b>	10 l, 30 l, continuous outlet
<b>Drive</b>	3-phase motor
<b>Drive power</b>	1.5 kW
<b>Electrical supply data</b>	different voltages
<b>Power connection</b>	3-phase
<b>Protection code</b>	IP 54
<b>W x H x D closed</b>	320 x 960 x 800 mm
<b>Net weight</b>	~ 150 kg
<b>Standards</b>	CE

\*depending on feed material and instrument configuration/settings

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## FUNCTIONAL PRINCIPLE

A hopper leads the sample material into the grinding chamber of the hammer mill. The HM 200 is equipped with a horizontal rotating shaft on which 10 freely swinging hammers are mounted. Those hammers crush the material at high speed inside the grinding chamber. With the swing hammers in contrast to fixed hammers, the risk of blocking the machine as well as the wear is minimized. The material is crushed by impact when hit by each hammer and while bouncing inside the grinding chamber. As soon as the sample is fine enough to pass through the sieve, it falls through the gravity outlet into a collecting vessel.



[Click to view video](#)

[www.retsch.com/hm200](http://www.retsch.com/hm200)



## ORDER DATA

### HAMMER MILL HM 200

**Hammer Mill incl. rotor with swing hammers, wearing plates and 10 l collecting receptacle  
(please order hopper and bottom sieve separately)**

21.753.0001	HM 200	3~ 400 V, 50 Hz
21.753.0002	HM 200	3~ 200-220 V, 60 Hz

**other electrical versions available for the same price**

### HOPPER

23.785.0031	Standard hopper
23.785.0030	Hopper for batch operation

### BOTTOM SIEVES HM 200, STEEL

03.647.0565	Round holes	2.00 mm
03.647.0566	Round holes	3.00 mm
03.647.0567	Round holes	4.00 mm
03.647.0568	Round holes	5.00 mm
03.647.0569	Round holes	6.00 mm
03.647.0570	Round holes	8.00 mm
03.647.0571	Round holes	10.00 mm
03.647.0572	Square holes	15.00 mm
03.647.0573	Square holes	40.00 mm

### ADDITIONAL ITEMS HM 200

23.003.0039	Collecting receptacle, 10 litres, stainless steel
23.003.0038	Collecting receptacle, 30 litres, stainless steel
23.003.0037	Outlet for continuous operation
22.786.0036	Conversion kit for continuous operation, incl. standard hopper, outlet for continuous operation, collecting receptacle, 30 liters, stainless steel
22.748.0017	Industrial vacuum cleaner, 230 V, 50/60 Hz, incl. adapter

(other electrical versions and spare filter bags available upon request)

23.711.0035	Wear plates, hardened steel
22.002.0028	Rotor incl. swing hammers