



ДИСКОВА МЕЛНИЦА RS 200

Fast sample homogenization for spectral analysis

No grinder can beat the speed of a Vibratory Disc Mill when it comes to preparing samples for spectral analyses. RETSCH's Vibratory Disc Mill RS 200 is ideally suited for fast and reproducible pulverization of hard, brittle and fibrous sample materials to analytical fineness.

The RS 200 runs steadily and smoothly, even with heavy grinding sets and at maximum speed thanks to its powerful Stabilized-Plane-Drive. It achieves grind sizes between 20 and 100 microns within seconds and with excellent reproducibility.

Grinding sets are available in a variety of sizes and materials. A set of sensors will recognize jars of tungsten or agate and automatically sets the maximum permissible speed, ensuring optimum results while protecting the material.



[Click to view video](#)

Product Video



FAST & REPRODUCIBLE

- | Very short grinding times, typically in the range of 60 to 180 seconds to achieve a fineness around 100 μm
- | Ergonomic design and carry handles ensure easy handling of the grinding set
- | Quick-action clamping system enables convenient and safe tightening of the grinding set
- | Automatic speed reduction for agate and tungsten carbide sets
- | Powerful Stabilized-Plane-Drive improves reproducibility
- | Variable speed from 700 to 1500 rpm

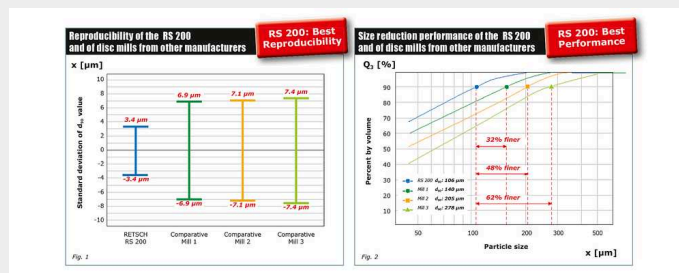
ДИСКОВА МЕЛНИЦА RS 200

PERFORMANCE TEST: SIZE REDUCTION AND REPRODUCIBILITY

The grinding results of a vibratory disc mill are significantly influenced by the movement patterns of the free masses inside the grinding jar. The new, powerful Stabilized-Plane-Drive of the RS 200 allows for extremely rapid formation of the movement pattern which is reflected in higher fineness and ultimately leads to significantly better reproducibility.

Figure 1 shows the standard deviation after 60 sec grinding time. It only takes a few large particles to impair the reproducibility of XRF measurements. Because of that, a small standard deviation for the d90 value is crucial.

Fig. 2: A “Quarter Minute Test” (QMT) evaluates the formation and stability of the movement patterns of Vibratory Disc Mills. Figure 2 shows that with the RS 200 a d90 value of 106 µm was obtained after a grinding time of only 15 seconds. The mills from three other manufacturers showed considerably inferior results.



Grinding parameters

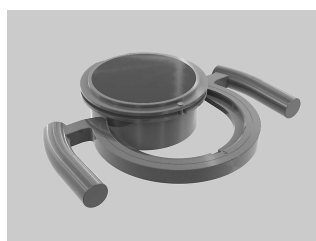
- | Grinding jar: 100 ml
- | Sample: цементов клинкер 0.85 to 3.15 mm
- | Speed: Maximum (1200 rpm)
- | Grinding time: 60 sec (Figure 1), 15 sec (Figure 2)

ДИСКОВАЯ МЕЛНИЦА RS 200

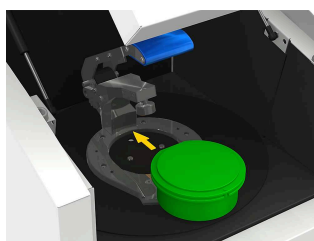
EXCEPTIONALLY SAFE AND SIMPLE HANDLING

Operation and handling of the RS 200 and its grinding sets is convenient and ergonomic. The grinding jars are equipped with carry handles which facilitate transport of the heavy jar to the mill where it is slid on a rail into its grinding station. The clamping device allows for safe fastening of the jar with less force; a sensor checks its correct position.

The grinding parameters are entered using a single button. The user can store up to 10 parameter combinations and choose between 13 languages for menu guidance. In addition to the current settings a colored graphics display shows service and operating information.



carry handles



rail



quick-action clamping device



graphic display

The grinding sets have been developed especially for extreme test conditions such as high sample throughput and high mechanical stress. Features include.

- | safe, non-slip attachment with integral safety devices on cover and base
- | gap between dish and cover edge for easy opening
- | optimum sealing with O-ring
- | protective jacket made from stainless steel (for agate, zirconium oxide and tungsten carbide dishes)
- | grinding set identification (article number, material and volume)
- | marking field (e. g. for information about sample)
- | available in 3 sizes and 5 materials



POWERFUL TWIN PACK FOR XRF ANALYSIS

To ensure accurate and reproducible XRF analysis results, the sample needs to have a uniform particle size distribution and the pellet to be pressed needs to be as dense as possible. Both requirements are easily met when using our vibratory disc mills and pellet presses for sample preparation to XRF analysis.



ДИСКОВА МЕЛНИЦА RS 200

ТИПИЧНИ ОБРАЗЦИ НА МАТЕРИАЛИ

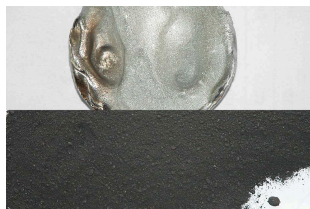
RETSCH's Vibratory Disc Mills rapidly pulverize materials such as cement, cement clinker, ceramics, coal, coke, concrete, corundum, glass, metal oxides, minerals, ores, silicate, slag, soil, etc.



шлака



електронен скрап



iridium



dolomite

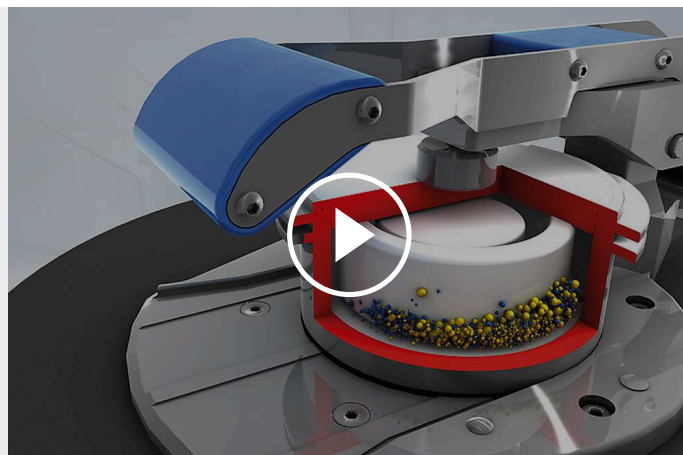
To find the best solution for your sample preparation task, visit our application database.

ДИСКОВА МЕЛНИЦА RS 200

ПРИНЦИП НА РАБОТА

The Vibratory Disc Mill RS 200 comminutes by pressure and friction. The grinding set is firmly attached to the vibration plate with a quick-action lever. The plate with the grinding set is subjected to circular horizontal vibrations.

The centrifugal force acting on the grinding rings in the dish results in extreme pressure and frictional forces acting on the sample, producing analytical fineness in 1-3 minutes. The circular vibrations are produced by a frequency controlled 1.5 kW 3-phase motor. A sensor recognizes the presence of agate grinding sets and automatically limits the speed to 700 min⁻¹ to avoid damaging the agate. The cover of the noiseinsulated grinding chamber has a safety interlock and can only be opened when the mill is at a standstill.



[Click to view video](#)

ДИСКОВА МЕЛНИЦА RS 200

TECHNICAL DATA

Приложения	намаляване на размера, смесване, пулверизиране
Област на приложение	геология / металургия, околна среда / рециклиране, строителни материали, стъкло / керамика
Материали	средно твърди, твърд, крехък, влакнести
Принцип на смилане	налягане, триене
Максимален размер на захванващият продукт	< 15 мм
Големина след смилане*	< 20 µm
Размер на партидата / количество на пробата*	15- 250 ml depending on size of grinding set
Скорост при 50 Херца (60 Херца)	700 - 1,500 об./мин., с възможност за постоянно коригиране
Материал на смилащите части	закалена стомана, волфрамов карбид, ахат, циркониев оксид, стомана 1.1740 (при изискване за неприсъствие на тежки метали)
Обем на смилачната камера	50 мл / 100 мл / 250 мл
Настройване времето за смилане	digital, 00:01 to 99:59
Запаметяване на настройки	10

Задвижване	Трифазен асинхронен мотор с честотен преобразувател
Мощност на двигателя	1.5 kW
Данни за електрозахранването	различни напрежения
Захранване	еднофазово
Защита	IP 20
Размери затворена	836 x 1220 x 780 mm
Нетно тегло	~ 225 kg (without grinding set)
Стандарти	CE

в зависимост от захранващият материал и настройките на инструмента

www.retsch.com/rs200

ДАННИ ПОРЪЧКА

VIBRATORY DISC MILL RS 200

Vibratory Disc Mill RS 200 with carry handle for grinding sets, on wheels (please order grinding set and carry handle insert (if necessary) separately)

20.730.0001



RS 200 220-230 V, 50/60 Hz

other electrical versions available for the same price

GRINDING SETS RS 200

HARDENED STEEL

01.462.0170



50 ml

01.462.0171



100 ml

01.462.0263



250 ml

TUNGSTEN CARBIDE

01.462.0353



50 ml (for up to 1200 min-1)

01.462.0354



100 ml (for up to 1200 min-1)

01.462.0355



250 ml (for up to 1200 min-1)

AGATE

01.462.0178



50 ml (only for 700 min-1)

01.462.0179



100 ml (only for 700 min-1)

ZIRCONIUM OXIDE

01.462.0193



50 ml

01.462.0192



100 ml

STEEL 1.1740 FOR GRINDING WITHOUT HEAVY-METAL CONTAMINATION

01.462.0002



50 ml

01.462.0266



250 ml

ACCESSORIES RS 200

CARRY HANDLE AND ACCESSORIES FOR RS 200 GRINDING SETS

03.225.0086



Carry handle for all 250 ml grinding sets,
for 100 ml grinding set hardened steel, agate, zirconium oxide, steel 1.1740
and for use with carry handle inserts

02.225.0087

Carry handle insert for 50 ml grinding set hardened steel, tungsten carbide, Steel
1.1740

02.225.0088

Carry handle insert for 50 ml grinding set agate

02.225.0089



Carry handle insert for 50 ml grinding set zirconium oxide

02.225.0090



Carry handle insert for 100 ml grinding set tungsten carbide

ADDITIONAL ITEMS RS 200

05.114.0075



O-ring for grinding set 50 ml steel

05.114.0069



O-ring for grinding set 50 ml agate and zirconium oxide

05.114.0068		O-ring for grinding set 50 ml tungsten carbide
05.114.0067		O-ring for grinding set 100 ml steel and zirconium oxide, 250 ml tungsten carbide
05.114.0070		O-ring for grinding set 100 ml agate and tungsten carbide
05.114.0076		O-ring for grinding set 250 ml steel
99.200.0035		IQ/OQ Documentation for RS 200