GRINDOMIX GM 100 / GM 200
LABORATORY KNIFE MILLS

THE NEW DIMENSION IN FOODSTUFFS PREPARATION

In foodstuffs laboratories, in chemical or biological research institutions — suitable analysis material is required everywhere for precise examination of foodstuffs. With the GRINDOMIX laboratory knife mill, RETSCH now produces a grinding and homogenising machine that fulfils professional laboratory and analysis requirements. It processes foodstuffs with high water, oil or fat contents just as rapidly and reliably as dry, soft and medium-hard products. For the first time, RETSCH provides a professional alternative to standard household mixers.

ADVANTAGES

- Complete homogeneity of the entire ground material ensures representative individual samples
- Standard deviation of analysis results 10 times smaller than with samples from household mixers
- Reproducible analysis results with digital time and speed setting, quartz precision sequence and memory function

- Variable grinding chamber volume by moving gravity lid for bulky products
- Powerful industrial motor with long life
- Push-fit knife and vessel for easy cleaning, no cross-contamination
- Professional design
- 2 year guarantee

PERFORMANCE FEATURES

<table>
<thead>
<tr>
<th>Applications</th>
<th>Grinding, homogenising and mixing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input material</td>
<td>Material containing water, fat or oil, dry material</td>
</tr>
<tr>
<td>Input grain size</td>
<td>10 - 40 mm</td>
</tr>
<tr>
<td>Final fineness</td>
<td>&lt; 300 μm</td>
</tr>
<tr>
<td>Batch size</td>
<td>up to 700/1000 ml</td>
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**GRINDOMIX — A PERFECT MIXTURE**

The Grindomix GM 100 and GM 200 laboratory knife mills are specially designed for the preparation of foodstuffs samples. They process dry and soft materials, and substances containing liquids, of all kinds. The GRINDOMIX is ideal for processing fruit, vegetable, food as well as feed pellets, grass, foliage, seeds and seedlings and many more.

With the special cutting knife system and the variable grinding chamber of the Grindomix, these materials can be processed into a homogeneous analysis sample, quick and easy. Two straight knives at different heights, arranged at right angles to the direction of rotation, turn at a speed between 2,000 and 10,000 rpm in the centre of the mill vessel.

The sharp, slim steel blades comminute and homogenise reliably. They have a cutting edge chamber to protect them from damage by hard sample material.

The powerful industrial motor with 750 watts continuous and 1,200 watts short time peak power drives the knives direct. Preselectable speeds, held constant by the electronics, ensure granulation even of difficult samples ready for analysis in only 10 to 30 seconds.

**HOMOGENEITY WITH THE GRAVITY LID**

In order to prevent the sample material from being slung against the vessel walls by the rotating knives and thus escaping from the milling action, the gravity lid developed by RETSCH reduces the vessel volume. This piston-like lid is free-floating and drops under its own weight during the milling process to rest directly on the sample material at all times. In this way, the GRINDOMIX knife mills always achieve a degree of comminution suitable for modern analysis techniques in a very short time.

*Illustration: GRINDOMIX GM 200 with optional glass vessel accessory*
FAST, PRECISE AND FLEXIBLE SAMPLE PREPARATION

EASY HANDLING, HIGH SAFETY LEVEL

Working with the GRINDOMIX knife mills from RETSCH is extremely easy. The milling vessels and knives are simply plugged in. On completion of the milling process, the mill switches off automatically and the hinged protective cover enables access to the mill vessel. The vessel with the fitted knives and the sample material can be simply removed, emptied and cleaned. Cross-contamination from sample residues is precluded.

Samples prepared in the GRINDOMIX are so homogeneous that they permit random but nevertheless representative splitting. That even applies to difficult substances like porridge, paste and highly viscous suspensions.

A short milling time and a wide selection of vessels, lids and knife sets make single and series processing quick, reliable and easy. GRINDOMIX knife mills thus create the best conditions for representative sampling and analysis results.

<table>
<thead>
<tr>
<th>GM 100/GM 200: Step by step a plus</th>
<th>GN 100</th>
<th>GM 200</th>
</tr>
</thead>
</table>

**The performance:**

- Rapid and gentle comminution and homogenisation of foodstuff
- Processing of products with high water, oil, fat or fibre content, and grains, breads and pastes
- Convenient, reproducible adaptation to various milling applications
- Internal mode for pre-granulation and milling
- Automatic switch-off at the end of the milling period

**The features:**

- Convenience in handling by simple replacement and cleaning of the mill vessels
- Controlled speed powerful 750 watt industrial motor with long life
- Variable milling chamber up to 700/1000 ml
- Gravity feed for automatic adjustment of the milling chamber
- 2 speeds, 5000 and 10000 rpm
- Speed adjustable from 2000 to 10000 rpm in steps of 500
- Preselction and digital display of speed and milling duration
- Three memory slots for retrieval of frequently used speed/time combinations

**The safety:**

- Easy handling reduces setting-up and cleaning times to a minimum
- CE compliant design, protection IP 54 in the area of the milling chamber
- 2 year guarantee
- Standard + accessories - not available

The right size:
On a small footprint, RETSCH provides a high degree of professionalism. The GRINDOMIX will find room on every bench top.
## FACTS AND FIGURES

### VOLTAGE VARIANTS OF THE GM 100 AND GM 200

<table>
<thead>
<tr>
<th>Voltage Variant</th>
<th>Article-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM 100, 230 V, 50 Hz</td>
<td>20.250.0001</td>
</tr>
<tr>
<td>GM 100, 100-110 V, 50/60 Hz</td>
<td>20.250.0002</td>
</tr>
<tr>
<td>GM 100, 100-110 V 50/60 Hz (USA and Japan)</td>
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<td>GM 200, 230 V, 50 Hz</td>
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Complete with 1 litre plastic vessel with lid and knife in stainless steel.

### OPTIONAL ACCESSORIES

<table>
<thead>
<tr>
<th>Accessory Description</th>
<th>Article-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass vessel, 1 litre</td>
<td>03.045.0046</td>
</tr>
<tr>
<td>Gravity lid for glass vessel, 1 litre</td>
<td>02.107.0308</td>
</tr>
<tr>
<td>Gravity lid for plastic vessel, 1 litre</td>
<td>02.107.0323</td>
</tr>
<tr>
<td>Plastic lid, 0.5 litre, for plastic vessel</td>
<td>03.107.0310</td>
</tr>
<tr>
<td>Scraper</td>
<td>05.723.0001</td>
</tr>
</tbody>
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### SPARE PARTS

<table>
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<th>Part Description</th>
<th>Article-No.</th>
</tr>
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<tbody>
<tr>
<td>Plastic vessel, 1 litre</td>
<td>03.045.0047</td>
</tr>
<tr>
<td>Plastic lid, 1 litre, for glass and plastic vessels</td>
<td>03.107.0309</td>
</tr>
<tr>
<td>Knife in stainless steel</td>
<td>02.444.0014</td>
</tr>
</tbody>
</table>

### PERFORMANCE DATA

Series wound motor

- Motor power: 750 watts, rated current: 3.8 A
- Controlled speed drive motor for GM 100 and GM 200, control accuracy: +5% (under no load)
- Torque at knife: short time: 1.4 Nm, continuous: 0.5 Nm
- Knife speeds:
  - GM: fixed 5000 and 10000 rpm
  - GM 200: from 2000 to 10000 rpm in steps of 500 rpm

### NOISE CHARACTERISTICS (DIN 45635-01-0403)

- No load at 10000 rpm: $L_p eq = 71.1 \text{ dB} (A)$
- Milling tomatoes at 10000 rpm: $L_p eq = 82.4 \text{ dB} (A)$

### DIMENSIONS AND WEIGHTS

<table>
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<th>Dimensions and Weights</th>
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<td>Weight (without accessories)</td>
<td>approx 7.5 kg</td>
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</table>

### PRECISION IN SERIES

The standard versions of the GRINDOMIX GM 100 and GM 200 are equipped with a plug-in 1 litre plastic vessel and lid in polypropylene (PP) and a push-fit blade knife in stainless steel. A cover in Lexan protects the milling chamber and vessel. The standard model GM 100 is simply controlled by four buttons: speed settings 5000 or 10000 rpm, start/stop and interval mode.

The GM 200 model is designed for additional operator convenience. The speed can be freely selected between 2000 and 10000 rpm in steps of 500 rpm. The running time can be set between 1 second and 3 minutes. Three memory keys save frequently used time and speed combinations. The speed and running time are shown on a digital display.

### ACCESSORIES AND EXTRAS

Various vessels and lids are available for the RETSCH knife mills. These adapt the GRINDOMIX optimally to suit the individual application.

The casings are fully recyclable.

RETSCH supplies a comprehensive range of equipment for sample preparation from solid materials. Just call us to request information on our crushers, mills, sample dividers, sieving machines, feeder channels, cleaning and drying apparatus. We will send you the documentation free of charge and without engagement.

Technical modifications reserved.