



Mikro-Dismembrators
Laboratory ball mills
for fine grinding

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The Mikro-Dismembrator models U and S from Sartorius are established in many laboratories world-wide for disintegration even of problematic sample materials. Whereas the Mikro-Dismembrator U with its shaking frequency of 2.000 min⁻¹ is suitable for most applications, the Mikro-Dismembrator S with a maximum frequency of 3.000 min⁻¹ is especially well suited for fast homogenization of samples frozen in liquid nitrogen, for instance of biopsy materials in cancer diagnosis.

Due to the high efficiency of shaking with grinding balls, samples are rapidly disintegrated, resulting in a much faster isolation of DNA, RNA and proteins than with protocols involving manual grinding processes and thereby reducing the risk of sample degradation.

In addition, the use of enzymes, which are often employed for cell lysis, can be avoided, thus replacing the introduction of foreign proteins, which may interfere with subsequent analysis. This is particularly advantageous in proteome research.

Reproducibility of the disintegration process is guaranteed by digital control of shaking frequency and shaking time. This ensures comparable experimental conditions even within large series of experiments – another big advantage over any manual processes.

In medical research, pathology or toxicology, the Mikro-Dismembrator units are used to disrupt frozen tissue samples, hair, bone, cartilage or teeth. One recent major application is extraction of tumor markers from deep-frozen biopsy sample materials for the purpose of cancer diagnosis. In microbiology frozen cell sediments can be disintegrated. In botany or environmental analysis, the Mikro-Dismembrators are used to grind needles, seeds and other hard plant materials. In food analysis, hair samples can be pulverized to check whether animals have been treated with illegal feed additives. A very special application is grinding of pigments to a uniform particle size for quality control.

In combination with a large range of various shaking flasks, grinding balls and glass beads, the Mikro-Dismembrator units can be adapted to many different applications, including the use of small disposable sample containers.

For other homogenization tasks in your laboratory, the Potter S homogenizer, LABSONIC® M and P ultrasonic disintegrators and Dounce hand homogenizers may be an option. Please refer to our Laboratory Product Catalogue or to our website, www.sartorius.com

Benefits

Rapid and highly efficient homogenization of brittle, frozen or hard materials

Reproducible action due to digitally controlled shaking frequency

Homogenization time can be preset

Safety lid protects the user

Shaking flasks made from stainless steel or PTFE

Large selection of grinding balls

Pig teeth, approx. 2fold



Pig teeth, homogenized, approx. 100fold



Geranium spec, approx. 2fold



Geranium spec, homogenized, approx. 100fold



Accessories



Cat.-No.	Description
BBI-853 1803	Shaking flasks made of stainless steel 1.4301 Shaking flask, stainless steel 1.4301, volume approx. 3 ml, with PTFE gasket and cap
BBI-8531811	Shaking flask, stainless steel 1.4301, volume approx. 5 ml, with PTFE gasket and cap
BBI-853 1820	Shaking flask, stainless steel 1.4301, volume approx. 7 ml, with PTFE gasket and cap



BBI-853 1838	Shaking flasks made of PTFE Shaking flask, PTFE, volume approx. 3 ml, with cap
BBI-853 1846	Shaking flask, PTFE, volume approx. 5 ml, with cap
BBI-853 1854	Shaking flask, PTFE, volume approx. 7 ml, with cap
BBI-853 1862	Shaking flask, PTFE, volume approx. 20 ml, with cap Holder 8531897 is required for using this shaking flask!



BBI-853 1943	Shaking flasks made of PTFE Shaking flask, PTFE, volume approx. 3 ml, with screw cap
BBI-853 1935	Shaking flask, PTFE, volume approx. 5 ml, with screw cap
BBI-853 1927	Shaking flask, PTFE, volume approx. 7 ml, with screw cap
BBI-853 1951	Shaking flask, PTFE, volume approx. 20 ml, with screw cap Holder 8531897 is required for using this shaking flask!



BBI-853 1889	Containers for disposable tubes, holder Container for 3 disposable test tubes 2.2 ml Ø 10.8×37 mm, for instance Sarstedt no. 72.608 Holder 8531897 is required for using this shaking flask!
BBI-853 1960	Container for 4 cryotubes Holder 8531897 is required for using this shaking flask!
BBI-853 1897	Holder for shaking flask 20 ml (8531951) and for the containers for disposable tubes (8531889 and 8531960)
BBI-853 2001	Container for 4 cryotubes (Nalge 5011-0012) Holder BBI-8531897 is required for using this shaking flask!
BBI-853 2010	Adapters for cryotubes BBI-8532001 pack of 8 (as spare parts)

BBI-853 1900	Special accessories Tray for microwell plates, capacity of 2 microwell plates with 96 borings, for using the Mikro-Dismembrator as a small shaker
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Cat.-No.	Description
	Grinding balls
BBI-854 7505	Made of Brazilian agate Grinding ball made of Brazilian agate, Ø 10 mm, weight 1.4 g, package with 10 pieces
BBI-854 7602	Made of PTFE, with steel core Grinding ball made of PTFE with steel core, Ø 10 mm, weight 2 g, package of 2 pieces
BBI-854 6606	Made of chromium steel Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 3 mm, package of 100 pieces
BBI-854 6703	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 5 mm, package of 100 pieces
BBI-854 6916	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 9 mm, package of 10 pieces
BBI-854 6800	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 10 mm, package of 10 pieces
BBI-854 7009	Made of Tungsten carbide Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 1mm, 1 piece
BBI-854 7106	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 3 mm, 1 piece
BBI-854 7203	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 5 mm, 1 piece
BBI-854 7408	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 7 mm, 1 piece
BBI-854 7300	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 10 mm, 1 piece
	Glass beads
BBI-854 1400	Glass beads Ø 0.10–0.11 mm, bottle, approx. 570 ml
BBI-854 1507	Glass beads Ø 0.17–0.18 mm, bottle, approx. 570 ml
BBI-854 1604	Glass beads Ø 0.25–0.30 mm, bottle, approx. 570 ml
BBI-854 1701	Glass beads Ø 0.40–0.60 mm, bottle, approx. 570 ml
BBI-854 1809	Glass beads Ø ca. 1 mm, bottle, approx. 570 ml
	Adapter set for the old model Mikro-Dismembrator II
BBI-853 1986	Adapter set for using Mikro-Dismembrator U/S flasks with the Mikro-Dismembrator II, for shaking flasks 3 ml, 5 ml, 7 ml

Ordering information and Technical Specifications

Ordering information

BBI-8531722	Mikro-Dismembrator U	230 V/50–60 Hz
BBI-8531730	Mikro-Dismembrator U	115 V/50–60 Hz
BBI-8531609	Mikro-Dismembrator S	115 V/230 V/50–60 Hz, convertible

Accessories

Shaking flasks and grinding balls or glass beads are required for the grinding process. We offer flasks with sizes of 3 ml, 5 ml, 7 ml and 20 ml. Choose from grinding balls made of agate, steel or Tungsten carbide. Glass beads can only be used for wet or liquid samples. Grinding balls have to be used for frozen or brittle material. The choice of suitable flasks and grinding balls depends on the intended application but the following table provides a general guide.

Shaking flasks	Stainless steel	PTFE
Grinding balls		
PTFE steel core	■	□
Agate		■
Stainless steel	■	□
Tungsten carbide	■	□

■ = very suitable, □ = suitable

Technical specifications

Mechanical data	Mikro-Dismembrator S	Mikro-Dismembrator U
Dimensions	W x H x D = 297 x 259 x 205 mm	W x H x D = 297 x 259 x 205 mm
Weight	19 kg	19 kg
Housing	Steel construction	Steel construction
Protection	IP21	IP21

Elektrical data

Connection	Class I cold socket, separate cable approx. 3 m	Class I cold socket, separate cable approx. 3 m
Protection class	I	I
Line voltage	230 V / 50 Hz, 115 V / 60 Hz , adjustable	230 V / 50 Hz or 115 V / 60 Hz
Power	Approx. 100 W	approx. 75 W
Fuses	2 x T1.0A at 230 V, 2 x T1.6A at 115 V	2x T 0.5A at 230 V, 2x T 1.0A at 115 V
Interference	Class N according to EN 55014-2	Class N according to EN 55014-2

Operating data

Shaking amplitude	16 mm (constant)	16 mm (constant)
Shaking frequency	100 to 2.600 1/min (permanent) 100 to 3.000 1/min (intermittent)	100 to 2.000 1/min
Accuracy	max. ± 3 % of final value	max. ± 3 % of final value
Setting / display	Alphanumeric key pad, LCD	Alphanumeric key pad, LCD
Timing	0:01 to 98:59 min, continuous action at 99:00 min	0:01 to 98:59 min, continuous action at 99:00 min
Ambient temperature	+10 °C to +35 °C	+10 °C to +35 °C
Humidity	Avoid extreme humidity	Avoid extreme humidity

All units are delivered without shaking flasks and other accessories.

Sales and Service Contacts

For further contacts, visit www.sartorius.com

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