

Technical data

System parameters	
Homogenization time	30 sec to 4 min (depending on the starting material)
DNA/RNA purification time	20–30 min for standard protocols (complete nucleic acid purification)
Device handling	Stand-alone device, simple starting and handling of device by using modern touch sensors
Acceleration time	No acceleration
Deceleration time	No acceleration

Application parameters	
Homogenization routines	User-defined programming with user-defined parameters, as well as pre-programmed protocols
Sample handling	Simple sample tube loading and removal
Sample capacity	Up to 12 samples simultaneously
Sample cooling	Passive cooled sample holder; storage at temperatures down to –40°C

Programming parameters	
Homogenization time range	1 sec to 4:59 min
Steps of adjusting time	1 sec
Pre-programmed protocols	Yes
User-defined protocols	Yes
Storable protocols	20
Number of cycles	1 – 99
Protocol steps	1 – 6

Accessories/kits	
Sample preparation	Different Lysis Tubes with application specific beads available; optimized for a diverse range of soft and hard starting materials
Complete purification	Optimized kits for complete isolation of DNA and RNA; contains special Lysis Tubes, specific beads and pre-made buffers

Other technical data	
Dimensions (W x H x D)	154 x 275 x 257 mm
Weight	12 kg
Power Supply	AC 220 V, 50 Hz/110 V, 60 Hz
Power consumption	150 W (max)
Warranty	2 years

Order information

Order No.	Description
845-00007-2	SpeedMill PLUS, 220 V stand-alone instrument system; preparation kits have to be ordered separately
845-00008-2	SpeedMill PLUS, 110 V stand-alone instrument system; preparation kits have to be ordered separately

Your contact

SpeedMill PLUS | Powerful and efficient homogenizer

- Particularly fast and efficient
- Complete and reproducible homogenization
- Sensors and large display provide considerable operating convenience



SpeedMill PLUS | Quiet and powerful homogenizer

Features

- Complete and reproducible homogenization; easily homogenizes even extremely resistant starting materials
- Efficient sample cooling during the whole preparation
- Very rapidly moving beads crush and disrupt the starting material
- Touch control panel and large display provide considerable operating convenience
- Pre-programmed protocols or user-defined programming with freely selectable parameters
- Compact construction
- Can easily be operated continuously
- Comparatively quiet operation
- No tools required to operate the instrument

Homogenizer for various starting materials

The SpeedMill PLUS is a highly efficient homogenization system for various starting materials used for the subsequent isolation and purification of DNA, RNA or proteins. The homogenization process is based on an innovative mechanical principle for which a patent has been filed. This new process allows users to operate the SpeedMill PLUS continuously if necessary.

Efficient sample cooling: prior, during and after preparation

For the novel sample holder, which is used inside the SpeedMill PLUS, different temperature ratings are freely selectable due to the storage down to -40°C . According to this an efficient sample cooling during the whole homogenization process is warranted and the substantial sample warming that occurs with other homogenizers is prevented. The often problematic handling of liquid nitrogen or dry ice is thus a thing of the past. Additionally the considerably expense factor of this additives, which have to be loaded continuously, is not applicable. Besides the sample holder allows an easy transport of the sample tubes and a long term storage of starting or homogenized material at adequate temperatures.

Modern preparation of samples: SpeedMill PLUS

The samples to be processed are rapidly and efficiently homogenized in Lysis Tubes that have been specially optimized for the system and, as such, contain different and application-specific beads. Using beads makes it possible to completely and reproducibly homogenize even the toughest starting materials, such as cartilage and chitin shells of insects tick, within a very short time. 2.0 ml and 0.5 ml containers (Lysis Tubes) with different beads are available for sample preparation, allowing users to adapt sample processing to a diverse range of soft and hard starting materials. Operating processes, such as loading and removing of the sample tubes, are very simple and no tools are required. In addition user-defined protocols can be entered and saved as well as pre-installed programs are available. Homogenization parameters, like time and using cyclic routines are freely selectable.

Optimized extraction kits for the SpeedMill

The SpeedMill also accommodates kits for complete nucleic acid (DNA and RNA) isolation from various starting materials. All kits have been optimized for the SpeedMill for extremely fast and efficient nucleic acid isolation. The yields produced are impressively high and the quality of the isolated nucleic acids is outstanding. These kits contain special Lysis Tubes with application-specific beads as well as pre-made buffers. They also contain all other components needed for isolating DNA or RNA from different starting materials. Optimizing the kits for sample processing with the SpeedMill results in extremely rapid and highly efficient nucleic acid isolation.



Both the yield and quality of the nucleic acids are excellent. The standard isolation protocol requires only about 20 to 30 minutes.

Nucleic acid extraction principle

DNA isolation: Mechanical disruption of the starting material is followed by a proteolytic lysis step. The genomic DNA is adsorbed onto a Spin Filter, washed and then eluted. The yield and quality of the DNA are excellent.

RNA isolation: After the mechanical disruption and denaturation of the starting material, genomic DNA is removed by adsorption onto an initial Spin Filter. The RNA is then adsorbed onto a second Spin Filter, followed by a wash step and finally by elution of the RNA.

