

SpeedMill PLUS

Powerful and highly efficient homogenizer

- Efficient sample cooling during the entire preparation
- Flexible homogenization system for various starting materials
- Large display and user-intuitive touch controls for easy operation



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Homogenizer for various starting materials

The SpeedMill PLUS is a highly efficient homogenization system for various starting materials, with homogenized samples used for the subsequent isolation and purification of DNA, RNA or proteins. The homogenization process is based on an innovative patent-pending, gearless mechanical principle. This technology allows users to operate the SpeedMill PLUS both quietly and continuously if desired.

Efficient sample cooling:

The unique anodized aluminum sample holder used in the SpeedMill PLUS allows passive sample cooling down to -40°C . By refrigerating or freezing the sample holder prior to homogenization, efficient sample cooling during the entire homogenization process is possible; the substantial sample warming which occurs with other homogenizers is prevented. The sample holder allows for easy transport of sample tubes and enables long-term storage of starting or homogenized material at ideal temperatures. Furthermore, the often problematic and costly handling of liquid nitrogen or dry ice is therefore not necessary.



■ Interchangeable sample adapters enable easy sample handling

Features

- Thorough, reproducible homogenization protocols
- Efficient sample cooling during the entire process
- Versatile homogenization of various starting materials
- Large display and user-intuitive touch control for easy operation of pre-installed and user-defined protocols
- Double Action Technology enables highly efficient energy transmission
- Smooth, quiet operation
- Optional innuSPEED Kits are optimally adapted for use with the SpeedMill PLUS homogenization system
- Broad portfolio of optional lysis tubes are adaptable to your existing homogenization methods

Modern preparation of samples

Samples are rapidly and efficiently homogenized in lysis tubes that are specially optimized for the SpeedMill PLUS. Each tube contains unique, application-specific beads. Using the beads makes it possible to completely and reproducibly homogenize even the hardest starting materials, including cartilage and chitin shells of insects or ticks. The 2.0 ml and 0.5 ml lysis tubes with different beads allow users to adapt sample processing to a diverse range of soft and hard starting materials. Operating processes, such as loading and removing sample tubes, are very simple with no tools required. Pre-installed programs are included, as well as user-defined protocols which can be entered and saved. Homogenization parameters, including time and cyclic routines, are easily selectable.

Optimized extraction kits

The SpeedMill PLUS accommodates Analytik Jena innuSPEED kits for complete nucleic acid (DNA and RNA) isolation from various starting materials. All kits are optimized for the SpeedMill PLUS for extremely fast and efficient nucleic acid isolation. Resulting yields 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 ready-to-use buffers. Kits also contain all other components needed for isolating DNA or RNA from different starting materials. The standard isolation protocol requires only about 20 to 30 minutes.

- 12 position sample holder standard; 20 position sample holder optional



Ordering information

SpeedMill PLUS with sample holder P12	845-00008-2 (100V) 845-00007-2 (220V)
Sample Holder P12 Sample Holder P20 Tube Fixation: lock to fix lysis tubes; for use with Lysis Tube Q	845-60051-0 (for up to 12 samples) 845-60053-0 (for up to 20 samples) 845-60054-0

Technical data

System parameters			
Homogenization time	10 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/Deceleration time	No acceleration/no deceleration with “instant on” feature		
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 holder P12 included); 20 position sample holder optional		
Aluminium sample adapter “standard”	Specific heat capacity: 0.9 J(g·K) ⁻¹ /Enables passive cooling		
PA 66 sample adapter “cooling”	Specific heat capacity: 1.7 J(g·K) ⁻¹ /Enables passive cooling		
Programming parameters			
Homogenization time range	1 sec to 4:59 min		
Steps of adjusting time	1 sec		
Protocol set up	Pre-programmed and user-defined		
Storable protocols	20		
Number of cycles	1–99		
Protocol steps	1–6		
Additional specifications			
Dimensions (W × H × D)	154 × 275 × 257 mm	Weight	12 kg
Power consumption	150 W (max)	Warranty	2 years

Nucleic acid extraction kits

innuSPEED Kits are adapted for optimal sample processing using the SpeedMill PLUS and permit extremely rapid and very efficient nucleic acid isolation. Both the yield and quality of the isolated nucleic acids are excellent. **All kits include lysis tubes.** The kits are optimized with Analytik Jena’s patented DC-Technology® extraction chemistry.

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 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.

innuSpeed Kits	Description	50 reactions	250 reactions
innuSPEED Tissue DNA Kit	Extraction of genomic DNA from tissue samples, biopsies, archives specimens, dried samples, insects and rodent tails	845-KS-1540050	845-KS-1540250
innuSPEED Plant DNA Kit	Isolation of genomic DNA from a variety of plant materials such as leaves, stems, roots, flowers	845-KS-1560050	845-KS-1560250
innuSPEED Soil DNA Kit	Isolation of microbial DNA from soil samples; enables digestion of microbial cell walls in specially developed Lysis Tubes	845-KS-1580050	845-KS-1580250
innuSPEED Bacteria/Fungi DNA Kit	Isolation of genomic DNA from gram+ bacteria, yeast and fungal spores	845-KS-1510050	845-KS-1510250
innuSPEED Stool DNA Kit	Isolation of bacterial DNA from solid or liquid stool samples; includes prefiltration for removing undissolved sample components	845-KS-1570050	845-KS-1570250
innuSPEED Tissue RNA Kit	Isolation of total cellular RNA from a variety of tissues	845-KS-2540050	845-KS-2540250
innuSPEED Plant RNA Kit	Efficient extraction of total plant RNA from a wide variety of plant materials such as leaves, stems, roots, flowers	845-KS-2560050	845-KS-2560250
innuSPEED Bacteria/Fungi RNA Kit	Extraction of total cellular RNA from fungal spores and gram+ bacteria	845-KS-2510050	845-KS-2510250

Lysis Tubes

Tube name	Description	50 tubes	100 Tubes	250 Tubes
innuSPEED Lysis Tube A	2.0 ml tube, ceramic beads (1.4-1.6 mm) for disruption of plant or animal tissue	845-CS-1010050	845-CS-1010100	845-CS-1010250
innuSPEED Lysis Tube B	2.0 ml tube, glass beads (90-150 µm) for disruption of bacteria and fungi	845-CS-1030050	845-CS-1030100	845-CS-1030250
innuSPEED Lysis Tube C	0.5 ml tube, ceramic beads (0.4-0.6 mm) for disruption of plant or tissue	845-CS-1040050	845-CS-1040100	845-CS-1040250
innuSPEED Lysis Tube D	0.5 ml tube, glass beads (90-150 µm) for disruption of bacteria and fungi	845-CS-1050050	845-CS-1050100	845-CS-1050250
innuSPEED Lysis Tube E	2.0 ml tube, ceramic beads (2.4-2.8 mm) for difficult samples such as insects, dried tissue or plants	845-CS-1070050	845-CS-1070100	845-CS-1070250
innuSPEED Lysis Tube F	0.5 ml tube, steel beads (4.7 mm) for resistant samples such as wood, seed or rice grain	845-CS-1090050	845-CS-1090100	845-CS-1090250
innuSPEED Lysis Tube G	2.0 ml tube, glass beads (90-150 µm) for disruption of bacteria/fungi samples	845-CS-1130050	845-CS-1130100	845-CS-1130250
innuSPEED Lysis Tube H	0.5 ml tube, steel beads (8x3.5 mm) for resistant samples as wood, seed or rice grain	845-CS-1100050	845-CS-1100100	845-CS-1100250
innuSPEED Lysis Tube I	0.5 ml tube, steel beads (5 x 3.5 mm) for resistant samples as wood, seed or rice grain	845-CS-1110050	845-CS-1110100	845-CS-1110250
innuSPEED Lysis Tube J	2.0 ml tube, steel beads (4.7 mm) for disruption of resistant samples as wood, seed or rice grain	845-CS-1120050	845-CS-1120100	845-CS-1120250
innuSPEED Lysis Tube P	0.5 ml tube, ceramic beads (2.4 - 2.8 mm) for difficult samples as insects, dried tissues or plants	845-CS-1020050	845-CS-1020050	845-CS-1020050
innuSPEED Lysis Tube Q	2.0 mL tube, reuseable metal mandrel. For extremely tough starting materials such as rice, bones and wood. Use of the optional tube fixation (part number 845-60054-0) is recommended. Sterilizing or autoclaving the mandrel after use is recommended.	845-CS-1180006 (6 tubes)	845-CS-1180012 (12 tubes)	845-CS-1180024 (24 tubes)
innuSPEED Lysis Tube S	2.0 ml tube, special small ceramic beads (0.4-0.6 mm) for stool, bacteria and fungi samples	845-CS-1060050	845-CS-1060100	845-CS-1060250
innuSPEED Lysis Tube W	2.0 ml tube, mixture of ceramic and steel beads (1.4-1.6 mm and 3.5 mm) for stool, bacteria, fungi and soil samples as well as cell cultures and spores	845-CS-1140050	845-CS-1140100	845-CS-1140250
innuSPEED Lysis Tube X	2.0 ml tube, mixture of ceramic beads (0.4-0.6 mm and 1.4-1.6 mm) in different sizes for stool, bacteria, fungi, soil samples as well as cell cultures and spores	845-CS-1150050	845-CS-1150100	845-CS-1150250
innuSPEED Lysis Tube Y	2.0 ml tube, mixture of glass and steel beads (90-150 µm and 4.7 mm) for stool, bacteria, fungi and soil samples, cell cultures and spores	845-CS-1160050	845-CS-1160100	845-CS-1160250
innuSPEED Lysis Tube Z	2.0 ml tube, mixture of glass and steel beads (90-150 µm and 3.5 mm) for stool, bacteria, fungi and soil samples, cultures, spores	845-CS-1170050	845-CS-1170100	845-CS-1170250



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Subject to changes in design and scope of delivery
 as well as further technical development.

