

# Freezer/Mill®

Grinding and  
Pulverizing



Tissue  
Homogenization  
Cell Lysis



SPEX® SamplePrep®

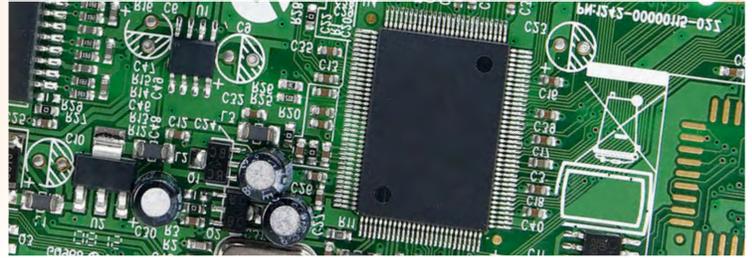
FORENSICS & BIOTECHNOLOGY



PLANT RESEARCH & CROP SCIENCE



ROHS/WEEE



PLASTIC & POLYMERS



MEDICINE & PHARMACEUTICALS



**PLASTIC CAPS**

BEFORE



AFTER



**HAIR**

BEFORE



AFTER



**ANIMAL TISSUE**

BEFORE



AFTER



**CIRCUIT BOARD**

BEFORE



AFTER



The Freezer/Mill® is a programmable laboratory mill that cools samples in a grinding vial to cryogenic temperatures then pulverizes them by magnetically shuttling a steel impactor back and forth against two stationary end plugs. Each unit comes with a touch screen control panel with grinding programs that control the grinding cycles, time, impact rate as well as pre-cooling and cooling times.

**APPLICATIONS: DNA/RNA EXTRACTIONS • YEAST ANALYSIS • DRUG TESTING • FORENSICS PHARMACEUTICAL ANALYSIS • RoHS/WEEE • POLYMERS • FOOD TESTING**



**6770 FREEZER/MILL®**

Small cryogenic mill that processes up to 5 g of samples. Its grinding chamber holds one small grinding vial, or one microvial set.

- :: Grinds samples in a sealed vial immersed in liquid nitrogen throughout the grinding cycle.
- :: Separate pre-cooling chamber to increase throughput.
- :: Insulated liquid nitrogen tub equipped with LN level sensor.
- :: Dimensions: 19 in (48 cm) x 10.5 in (27 cm) x 12.75 in (32 cm).
- :: Weight: 26 lbs (11.8 kg).



**6870 FREEZER/MILL®**

Large cryogenic mill that processes up to 100 g of samples. Its grinding chamber holds one large grinding vial or one mid-sized vial or up to four small grinding vials or four microvial sets.

- :: Grinds samples in a sealed vial immersed in liquid nitrogen throughout the grinding cycle.
- :: Separate pre-cooling chamber to increase throughput.
- :: Insulated liquid nitrogen tub equipped with LN level sensor.
- :: Available with manual Liquid Nitrogen (LN) fill or with LN auto-fill.
- :: Dimensions: 20.5 in (52 cm) x 21.5 in (55 cm) x 18 in (46 cm).
- :: Weight: 44 lbs (20 kg).

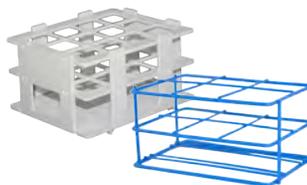
**GRINDING VIALS & ACCESSORIES**

**GRINDING VIALS**



Vials consist of a center cylinder, two end plugs and an impactor. Sample capacity for vials depends on the nature of the material. Available in different materials to eliminate contamination.

**VIAL RACKS**



Vial racks hold several grinding vials for storage and handling before and after grinding samples in the Freezer/Mill.

**VIAL HOLDERS & ADAPTERS**



Vial holders and adapters position one or more small grinding vials for insertion into the grinding chamber of large Freezer/Mills.

<b>FREEZER/MILL®</b>	<b>MICROVIAL, SET OF 3 (0.1 g – 0.5 g EACH)</b>	<b>SMALL VIAL (0.1 - 5 g)</b>	<b>MEDIUM VIAL (1 - 40 g)</b>	<b>LARGE VIAL (1 - 100 g)</b>
6770 Freezer/Mill®	1 set (3 total)	1	N/A	N/A
6870 Freezer/Mill®	4 sets (12 total)	4	1	1
6870D Freezer/Mill®	8 sets (24 total)	8	2	2
6970D Freezer/Mill®	8 sets (24 total)	8	2	2



Scan this QR code to see videos of the Freezer/Mill in action or visit [youtube.com/sampleprep](https://www.youtube.com/sampleprep)



### 6870D FREEZER/MILL®

Large, dual chamber, cryogenic mill that processes samples up to 200 grams. Grinds samples from 0.5 -100 g per grinding chamber. Each grinding chamber holds one large grinding vial, or one mid-sized vial, or up to four small grinding vials, or four microvial sets each.

- : Grinds samples in a sealed vial immersed in liquid nitrogen throughout the grinding cycle. LN auto-fill system is built into the mill.
- : Dual pre-cooling chambers keeps samples at the appropriate temperature while other samples are grinding.
- : Insulated liquid nitrogen tub equipped with LN level sensor.
- : Dimensions: 20 in (50.8 cm) x 21 in (53.34 cm) x 25.5 in (64.77 cm).
- : Weight: 78 lbs (35 kg).



### 6970D FREEZER/MILL®

Large, dual chamber, enclosed cryogenic mill that processes samples up to 200 grams. Grinds samples from 0.5 -100 g per grinding chamber. Each grinding chamber holds one large vial, one mid-size vial, or up to four small vials, or up to four microvial sets each.

- : Grinds samples in sealed vials placed in chambers surrounded by liquid nitrogen. LN auto-fill system is built into the mill.
- : Dual grinding chambers that can be programmed for independent operation and different protocols, providing high-throughput, flexibility and speed.
- : Dimensions: 22 in. (56 cm) x 18¼ in. (46 cm) x 17 in. (43 cm).
- : Weight: 70 lbs. (31.7 kg).

## EXTRACTORS / VIAL OPENERS



When vials are chilled to cryogenic temperatures, the polycarbonate cylinder shrinks around the end plugs making a tight seal. Our range of vial openers and extractors are easy to operate and remove end plugs quickly with no loss of sample.

- A. 6808 Large Vial Extractor** - Removes the end-plugs from large grinding vials. 6808M Adapter Kit is available to open midsized vials.
- B. 6758 Microvial Extractor** - removes end plugs from microvials.
- C. 6756 small vial Extractor** - removes end plugs from small vials.
- D. 6754 Small Vial Opener** - Used to remove the end plugs from the center cylinders of small grinding vials. (Supplied free with mill purchase).
- E. 6804 Vial Opener** - Used to remove the end plugs from the center cylinders of large grinding vials. Adapter Kit is available to open midsized vials (Supplied free with mill purchase).

*Cryogenic gloves must be worn to protect hands at all times.*

# THE ULTIMATE PLANT & ANIMAL TISSUE HOMOGENIZER

2010

## Geno/Grinder®

This high-throughput plant & animal tissue homogenizer has an adjustable clamp that accommodates up to six titer plates or 16 centrifuge tubes. Specifically designed for rapid cell disruption, lysis and tissue homogenization. Kryotech® accessories are available to preserve temperature sensitive samples during the grinding process.

**SAMPLE TYPES:** Animal tissue • Plant tissue • Vegetables • Fruit  
Bacteria • Seeds • Yeast • Cereal • Beans • Cell Cultures

**APPLICATIONS:** Tissue Homogenization • DNA/RNA extraction  
Cell lysis • QuEChERS • Protein extraction • Biofuels

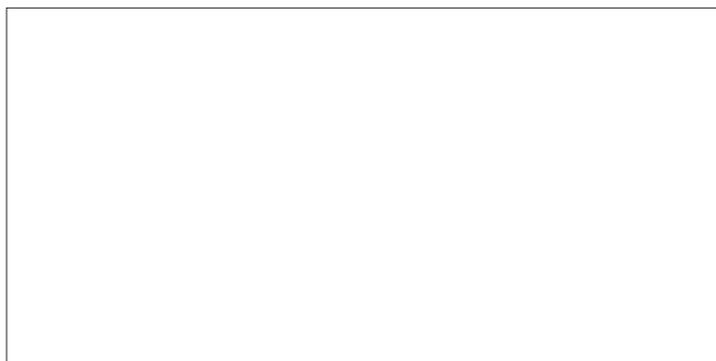


Scan this QR code to see videos for the Geno/Grinder or visit [youtube.com/sampleprep](http://youtube.com/sampleprep)

### FREEZER/MILL® APPLICATION NOTES.

For more application notes on the Freezer/Mill® please visit [www.spexsampleprep.com/appnotes](http://www.spexsampleprep.com/appnotes).

- ∴ RNA Extraction from Cartilage Tissue Using Cryogenic Grinding (#SP005)
- ∴ Preparation of Rice Husks for the Analysis of their Contents (#SP006)
- ∴ Grinding Polymers for Qualitative and Quantitative Analysis (#SP007)
- ∴ Molecular Effects of Pollution in Cetacean Samples (RNA Extraction from Whale Skin and Blubber) (#SP015)



Your Science is Our Passion.™

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## DEMO PROGRAM: TRY IT BEFORE YOU BUY IT!

SPEX SamplePrep gives you the opportunity to try out our sample preparation equipment in your laboratory for one week. Best of all, our demo program is COMPLIMENTARY! Once you try our quality products you'll ask yourself how you ever lived without them.

For more information please call 1-855-GET-SPEX or visit [www.spexsampleprep.com/freezermill](http://www.spexsampleprep.com/freezermill)