



MIXER/MILL[®]

HIGH ENERGY BALL MILL



SAMPLE PREPARATION FOR:

- XRF or ICP Analysis
- Environmental Testing
- Pharmaceutical Testing
- Food Testing
- Mechanical Alloying
- Materials Research
- Mechanochemistry

SPEX[®] SamplePrep[®]
WWW.SPEXSAMPLEPREP.COM

THE 8000 LINE OF MIXER/MILLS ARE POWERFUL, HIGH-ENERGY BALL MILLS THAT PULVERIZE HARD OR BRITTLE SAMPLES TO ANALYTICAL FINENESS. TWO MODELS ARE AVAILABLE, THE SINGLE CLAMP 8000M MIXER/MILL® AND THE DUAL CLAMP 8000D MIXER/MILL®.



PHARMACEUTICALS



SUPER ALLOY



GRANITE

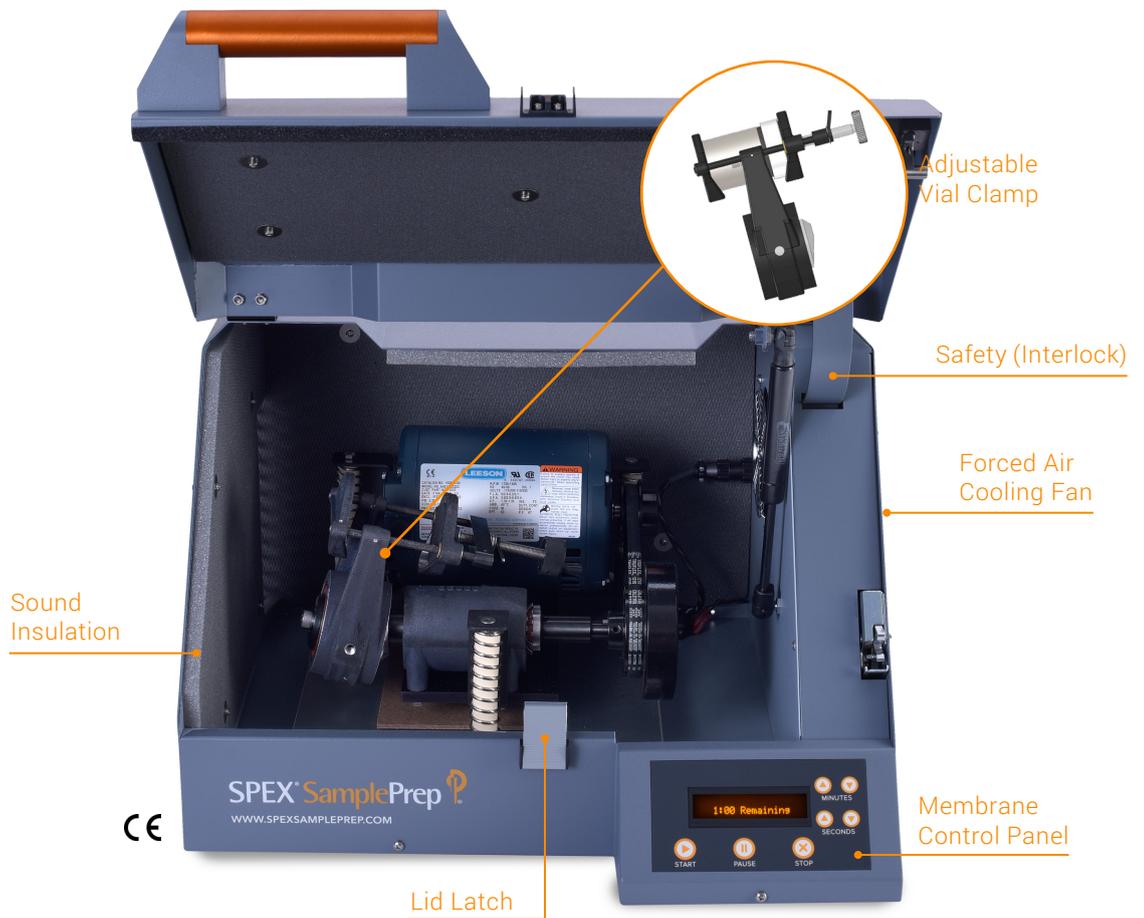


GLASS

ADDITIONAL SAMPLE TYPES:

- SAND
- CEMENT
- SLAG
- CERAMICS
- SEEDS & GRAINS
- PAINTS & INK
- CATALYST SUPPORTS
- ANIMAL TISSUES
- PLANT TISSUES

8000M MIXER/MILL®



VIAL CAPACITY:

One standard vial or one multiple vial adapter for small vials.

SAMPLE SIZE:

Up to 10 mL (approx. 10 g) for grinding tough samples and up to 50 mL for blending powders or mixing emulsions.

CLAMP SPEED:

1060 cycles per minute (cpm) @ 60 Hz, 115 V or 875 cpm @ 50 Hz, 230 V*

DIMENSIONS:

21" L (54 cm) x 22" W (56 cm) x 14" H (36 cm)

WEIGHT: 80 lb (36 KG)

*Alternate pulley supplied with 230 V model for 1060 cpm operation.



Steel housing and rugged construction ensure a long life of heavy work.

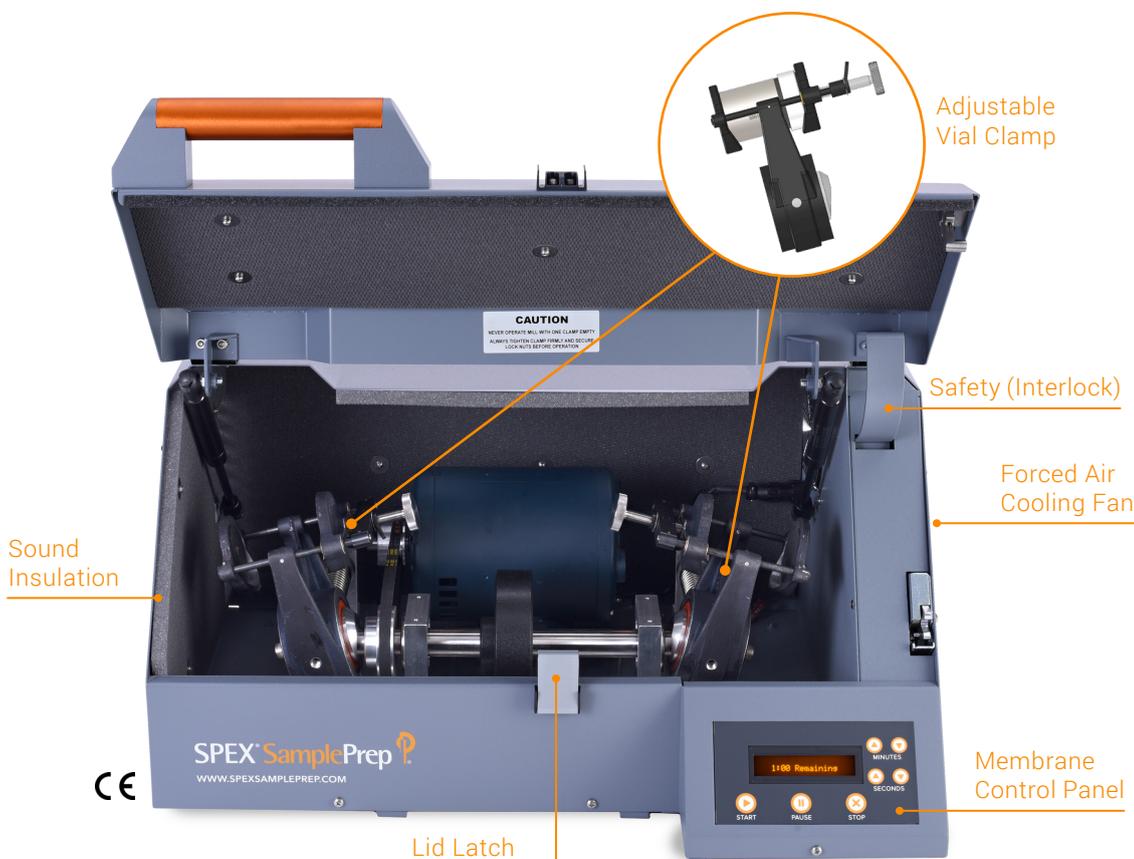


Shock-mounted electric motor for table top operation.



Safety interlock system for operator protection

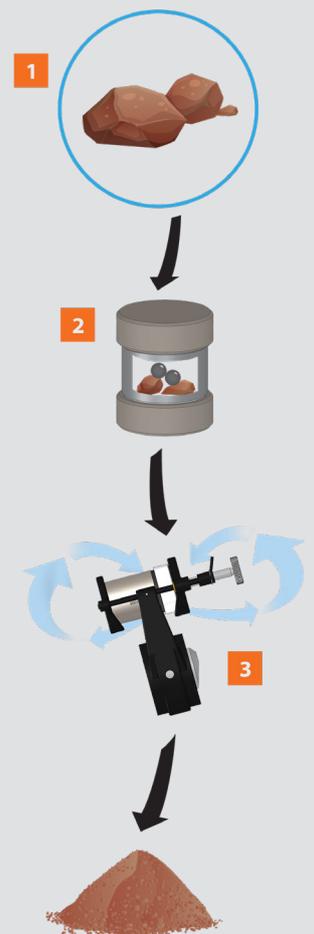
8000D MIXER/MILL®



RUGGED & RELIABLE

The Mixer/Mill pulverizes hard or brittle samples to analytical fineness.

The sample is placed in a grinding vial with one or more balls, then shaken vigorously. The motion of the clamp produces strong G-forces on the vial which pulverize the toughest samples.



VIAL CAPACITY:

Two standard vials or two multiple vial adapters for small vials.

SAMPLE SIZE PER VIAL:

Up to 10 mL (approx. 10 g) for grinding tough samples and up to 50 mL for blending powders or mixing emulsions.

CLAMP SPEED:

1060 cycles per minute (cpm) @ 60 Hz, 115 V or 875 cpm @ 50 Hz, 230 V

DIMENSIONS:

25" L (64 cm) x 21" W (54 cm) x 14" H (36 cm)

WEIGHT: 92 lb (42 kg)



Vibration detection switch shuts down the mill in the event of mechanical failure.



Clamp swings 2 1/3 in (5.9 cm) back-and-forth with a short lateral "figure-8" movement.



Timer range to 100 minutes. Optional chip* is available to extend timer range to 175 hours (10,500 minutes).
*Limited warranty applies

MIXER/MILL® ACCESSORIES

SPEX SAMPLEPREP PROVIDES GRINDING VIALS, GRINDING MEDIA, MIXING VIALS AND MULTI-VIAL ADAPTERS TO AID IN THE PREPARATION OF YOUR SAMPLE.

WWW.SPEXSAMPLEPREP.COM/MIXERMILL-ACCESSORIES



GRINDING VIALS

Vials are available in different materials to effectively grind all sample types and to avoid contamination from specific elements. Vials are available in different sizes to accommodate grinding loads from approximately 0.5 g to 10 g and for blending up to 50 mL of sample. Many vials are also suitable for slurry grinding.

<p>AGATE VIAL</p>  <p>Major Elements: Si Sizes Available: 3.5 mL, 45 mL</p> <p># 8014</p>	<p>HARDENED STEEL VIAL</p>  <p>Major Elements: Fe Sizes Available: 2.5 mL, 5 mL, 35 mL, 65 mL</p> <p># 8001</p>	<p>TUNGSTEN CARBIDE VIAL</p>  <p>Major Elements: W,C,Co Sizes Available: 3.5 mL, 45 mL</p> <p># 8004</p>
<p>ALUMINA CERAMIC VIAL</p>  <p>Major Elements: Al Sizes Available: 45 mL</p> <p># 8003</p>	<p>ZIRCONIA VIAL</p>  <p>Major Elements: Zr Sizes Available: 45 mL</p> <p># 8005</p>	<p>POLYPROPYLENE VIAL</p>  <p>Major Elements: C Sizes Available: 35 mL, 75 mL</p> <p># 6134</p>
<p>POLYSTYRENE VIAL</p>  <p>Major Elements: C Sizes Available: 3.5 mL, 45 mL</p> <p># 6133</p>	<p>POLYCARBONATE VIAL</p>  <p>Major Elements: C Sizes Available: 75 mL</p> <p># 8020</p>	<p>SILICON NITRIDE VIAL</p>  <p>Major Elements: Si,N Sizes Available: 45 mL</p> <p># 8008</p>

VIAL ADAPTERS



A range of vial adapters are available to run multiple smaller vials in the Mixer/Mill clamp. Up to seven small vials may be run simultaneously in each clamp.

GRINDING MEDIA

Most grinding vials are supplied with grinding balls of the same material and replacement balls can be purchased separately.

Material Available: Methacrylate, Stainless Steel, Hardened Steel, Agate and Tungsten Carbide.



GRIND MORE SAMPLES WITH OUR POWERFUL RING & PUCK MILL

The **8530 ShatterBox®** is a powerful mill that grinds up to 100 grams of dry, brittle material. It is ideal for rapid dry or wet grinding applications. The mill swings a grinding container with a puck and ring, in a tight, high-speed rotation for fast effective grinding.

www.spexsampleprep.com/shatterbox

PRESS SAMPLES FOR XRF WITH OUR LABORATORY PRESS

The **3636 X-Press®** is a programmable, hydraulic laboratory press that applies up to 35-tons (31.8 metric tons) of pressure to press powdered samples into pellets for XRF analysis. We also provide Die Sets, Binders and Spec-Caps® for use with the X-Press.

www.spexsampleprep.com/3636xpress



DEMO & SAMPLE GRIND PROGRAM

SPEX SamplePrep has a complimentary **Demo Program** allowing you to try our equipment in your laboratory. We also offer in-house Sample Grinding and Testing Services. To submit your request visit www.spexsampleprep.com/demo-request.



APPLICATION NOTES ONLINE

Our library of application notes can help you find the most suitable products and methods for your application. To read our application notes online or download a copy, visit www.spexsampleprep.com/appnotes

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